P924C
Sept. 1972

Preliminary Evaluation of

CORPORATE TAX REFORM OPTIONS

Commonwealth of Pennsylvania
September 1972

This is one of the following interrelated reports prepared by McKinsey & Company, Inc., for use by the Governor's Tax Reform Committee:

1. Economic Environment for Tax Reform
2. Analysis of Pennsylvania's Personal Income Distributions
3. Reforming Pennsylvania's Personal Income Tax
4. Preliminary Evaluation of Major Sales Tax Reform Opportunities
5. Preliminary Evaluation of Real Property Tax Reform Opportunities
6. Preliminary Evaluation of Corporate Tax Reform Options

(Appendix: Base Cases for the Analysis of Corporate Tax Options)

These reports are preliminary analyses to serve as working tools for the Tax Reform Committee. They do not represent either McKinsey's or the Tax Reform Committee's recommendations.

To permit making these reports available to the Committee promptly, the exhibits have been presented in their original hand-drawn form.

PRELIMINARY EVALUATION OF

CORPORATE TAX REFORM OPTIONS

COMMONWEALTH OF PENNSYLVANIA

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INTRODUCTION

In Pennsylvania, direct taxes on corporations account for almost one-third of total state tax revenues. The largest single state corporate tax is the corporate net income tax. At 11 percent, the State's corporate net income tax rate is one of the highest in the country and 2 to 7 percentage points higher than the rate on comparable taxes in surrounding states. (One of the major considerations in reforming Pennsylvania's corporate taxes must be the fact that because of this high rate Pennsylvania appears to have a relatively more unfavorable tax climate compared to other states than it actually has.) In fiscal year 1971-1972, this tax is estimated to account for 15.4 percent of total State tax revenues.

The second largest direct state tax on corporations is the capital stock tax. This tax is imposed at a rate of 10 mills per dollar of assessed value on all corporations doing business or having capital stock employed or used in Pennsylvania and is based on the "actual value" of the taxpayer's whole capital stock of all kinds. The state legislation imposing the tax outlines three approaches to valuation: (1) the average at which the stock sold during a tax year; (2) the price or value indicated or measured by net earnings or profit made; and (3) the actual

value indicated or measured by consideration of the intrinsic value of the taxpayer's net tangible property and assets - as indicated by the material results of their exercise. However, these valuation guidelines are so lacking in specificity and precision that, in fact, capital stock tax payments by major corporations are often the result of negotiations between the taxpayer and the State. This administrative problem with the tax is clearly one that warrants tax reform attention. Nevertheless, despite the administrative problems, the capital stock tax is estimated to provide over 6 percent of total State tax revenue in fiscal year 1971-1972.

A third significant tax on Pennsylvania corporations is the real property tax - imposed at different rates by many local governments in the State. While not discussed in detail in this report (property taxes are discussed in a separate report produced as part of this study), local property taxes constitute a significant burden on most corporations and are an important element of any assessment of the total tax burden on corporations in Pennsylvania.

In aggregate, the total direct tax burden on Pennsylvania corporations is roughly comparable to the burden in other and particularly, in surrounding, states. This fact is somewhat obscured by the high visibility of the corporate net income tax rate. Therefore a key reform consideration in the corporate tax area is the need to improve the "appearance" of Pennsylvania's corporate tax

situation. This could be achieved either by lowering corporate taxes - resulting in the development of a favorable tax climate - or by reallocating the total tax burden on corporations to make it more similar to the tax situation faced by corporations in other states.

The urgency of improving the competitive appearance of Pennsylvania's corporate tax burden is underscored by a brief review of Pennsylvania's overall economic situation. Looking only at the last decade, Pennsylvania has lagged behind the rest of the United States under most measures of economic growth. For example, manufacturing employment in Pennsylvania fell by 4 percent between 1966 and 1970 - compared to a decline of less than 1 percent nationwide. Total employment in all sectors increased at an average annual rate of 1.66 percent in Pennsylvania between 1961 and 1970; overall in the United States, employment grew by 2.67 percent a year in the same period. Finally, in terms of output, between 1966 and 1969, for the five largest durable goods industries in Pennsylvania, U.S. average annual output gains exceeded Pennsylvania growth rates by an average of almost 4 percentage points. In summary, a key consideration in reforming Pennsylvania's corporate tax structure would involve finding ways to stimulate the State's overall economic growth.

A review of Pennsylvania's current economic situation also suggests other possible objectives for corporate tax reform: Pennsylvania's economy is heavily concentrated in manufacturing and within manufacturing in a few key durable and nondurable goods industries - e.g., primary metals, apparel. Some of these

key industries have experienced considerable difficulty in recent years. For example, both the primary metals and apparel industries have suffered very serious competition from foreign imports. To retain their position in the marketplace, these industries have been forced to invest heavily in cost-reducing or quality improving machinery - with some of this investment possibly at the expense of jobs for Pennsylvania workers.

In addition, the heavy proportion of Pennsylvania's economy in these key industries has tended to inhibit economic growth overall. The service sector, nationwide, has experienced the most rapid growth of all economic sectors. However, in Pennsylvania the service sector is a smaller portion of the State's total economy, and as a result, Pennsylvania has benefitted less than the rest of the country from the more rapid growth in service activities.

The structure of Pennsylvania's economy presents one of the greatest dilemmas for tax reform policymakers to resolve: Should Pennsylvania's reformed corporate tax structure - to the extent it imposes unequal burdens on different economic sectors - seek to assist the major existing industries in the State improve their competitive position; or alternatively, should the tax structure seek to encourage the development of rapidly growing economic sectors not now heavily concentrated in Pennsylvania - at the expense of the older existing industries (at least to the extent that the tax system does not favor these industries). Much of the analysis described in this report is designed to highlight the difference in relative tax burdens so that a clear policy choice can be made.

A final area warranting attention relates to the structure of each corporate tax - and especially of the capital stock tax. Within the corporate net income tax, some consideration might be given to the desirability of allowing deductions or exemptions for certain types of investments - e.g., investments in automation where a commitment is made to retain preinvestment levels of employment. Similarly, the State might consider adopting special (i.e., not in conjunction with the Federal Government) investment tax credits - such as a bonus credit on investments in certain industries or geographic areas. In deciding on the specific provisions of the tax, a key consideration must be the degree to which the provisions favors certain economic sectors over others.

The need for reform within the capital stock tax is even greater. The primary problem with the current tax formulation is the virtual impossibility of establishing precise capital stock valuation procedures. As a result there is no way to determine whether or not the tax is fair - i.e., it taxes similar taxpayers equally. A major thrust of corporate tax reform must be to resolve this fundamental problem in the structure of the capital stock tax. (One option might involve abolishing the tax altogether.) In addition, some attention should be given to determining whether the exemptions in the current tax (e.g., the exemption for property and other capital stock involved in metals and plastic treatment) are justified, in the State's best interest and/or broad enough to

ensure that other taxpaying corporations not covered by the exemptions are fairly treated.

In this report we describe our preliminary analysis of major corporate tax reform options. The report contains four chapters:

1. Pennsylvania's economy and the implications for tax reform
2. The effect of corporate taxes on corporate decision making
3. Interstate comparison of corporate tax burdens
4. Corporate taxes as a factor influencing investments.

In a separately bound appendix, the detailed results of our "base case" analysis of the effect of different tax options on the investment potential of corporations are presented.

Because of the complexity of the corporate tax area, in this preliminary study for the Commonwealth we concentrated on developing a methodology for evaluating corporate tax options - rather than extensive detailed analyses of specific reform options. Therefore, the material in this report describes that methodology; further work needs to be done to evaluate all of the potential reform options in detail. The approach we developed was chosen to expedite the evaluation of options - once the specific options to be considered are selected by State officials or members of the Tax Reform Committee. To illustrate the types of analysis that can be useful, however, this report does include (in Chapter 4) detailed discussions of eight specific options - two each involving: (1) reduction

in the corporate net income tax rate; (2) adoption of a special State investment tax credit; (3) changes in allowable depreciation; and (4) reduction or elimination of the capital stock tax.

In addition, we focused our analysis primarily on the effect of corporate taxes on economic growth and on the relative neutrality of different tax options because in our judgment these are the key criteria for making corporate tax reform decisions - particularly in a State like Pennsylvania which has experienced sluggish economic growth in recent years. In this initial survey of corporate tax options, we do not treat the "second order" incidence effects resulting from the pass-along of the corporate tax burden to consumers, workers or investors.

In summary, the major policy choices to be made in reforming Pennsylvania's corporate tax structure are:

- Should the overall corporate tax burden be reduced to create a more favorable corporate tax climate in the State?
- Should (or perhaps "how much should") the corporate net income tax be reduced?
- Should the capital stock tax be eliminated? If not, how can its administration be simplified and improved?

¶ Should corporate tax policy in Pennsylvania seek to

- Encourage the development of new and desireable industries?
- Favor existing industries in the State to ensure their future well-being?

Once these policy issues have been resolved, the methodology described in this report can be used to evaluate specific tax reform options designed to achieve the policy goal, including - but not limited to - the options discussed in this report.

1 - PENNSYLVANIA'S ECONOMY AND THE IMPLICATIONS FOR CORPORATE TAX REFORM*

Corporate taxes are a charge against the potential earnings of a corporation, and, as such, they significantly alter the profitability of existing investments and the desirability of future investments. For example, corporate taxes can be a significant factor in industrial location or equipment investment decisions particularly for manufacturing concerns. Because the direct burden of corporate taxes is on corporations, a key consideration for policymakers in formulating a corporate tax reform program is the condition of the taxing jurisdiction's economy.

An analysis of the economic condition of the taxing jurisdiction can suggest some important tax reform objectives. For example, a pattern of all-round slow growth and low levels of new investment might suggest a reduction in tax rates across-the-board, or tax credits for new investments. A pattern of high growth accompanied by severe cyclical fluctuations might suggest economic stabilization, rather than growth, as the major objective. In this case, temporary reductions in tax rates or tax deferral might be appropriate as tax policy instruments. As a third example, if the pattern is one of rapid output growth and high

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* - Much of the material in this chapter was also covered in the McKinsey report, Economic Environment for Tax Reform prepared for the initial meeting of the Governor's Tax Reform Committee on June 20, 1972.

investment accompanied by slow growth in employment, tax policy might focus on stimulating employment either across-the-board or in high-employment sectors. In brief, tax policy can be viewed as an instrument to be tailored to current and expected economic performance, and to sectoral or statewide growth objectives.*

The relative concentration of economic activity within a taxing jurisdiction is an important concern of tax policymakers because corporate taxes are not neutral between types of economic activity. For example, corporate income taxes have different impacts on sectors with different profit margins, while taxes based on capital assets should affect capital intensive sectors more than labor-intensive sectors. In formulating tax policy, therefore, the sectoral

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* - Taxes are only one of several instruments that a jurisdiction can use to achieve economic objectives. In particular, corporate tax differentials between states may be too small to outweigh other economic factors that affect locational decisions; moreover, provisions enabling deductability of state taxes against Federal taxable income reduce the effectiveness of tax liberalization at the state level. Thus, some economic objectives might be more effectively addressed by instruments other than tax policy. For example, availability and cost of plant sites may have a larger economic impact on some industries than taxation at the state or local level; in these circumstances, subsidy programs or land use planning might be more effective instruments for modifying corporate locational decisions. At a more aggregate level, the increased use of state development financing funds might be an alternative to tax reform aimed at assisting economic development.

impacts of each tax reform option should be evaluated for consistency with the State's sectoral growth objectives.

In this chapter we present an overview of Pennsylvania current economic condition and the changes in that condition in recent years. Specifically, this chapter covers:

- Structure of Pennsylvania's economy
- Trends in Pennsylvania's economic situation
- Implications for corporate tax reform

Comparisons of Pennsylvania's economy to that of the United States are used to highlight the key differences warranting consideration by the State's tax policymakers.

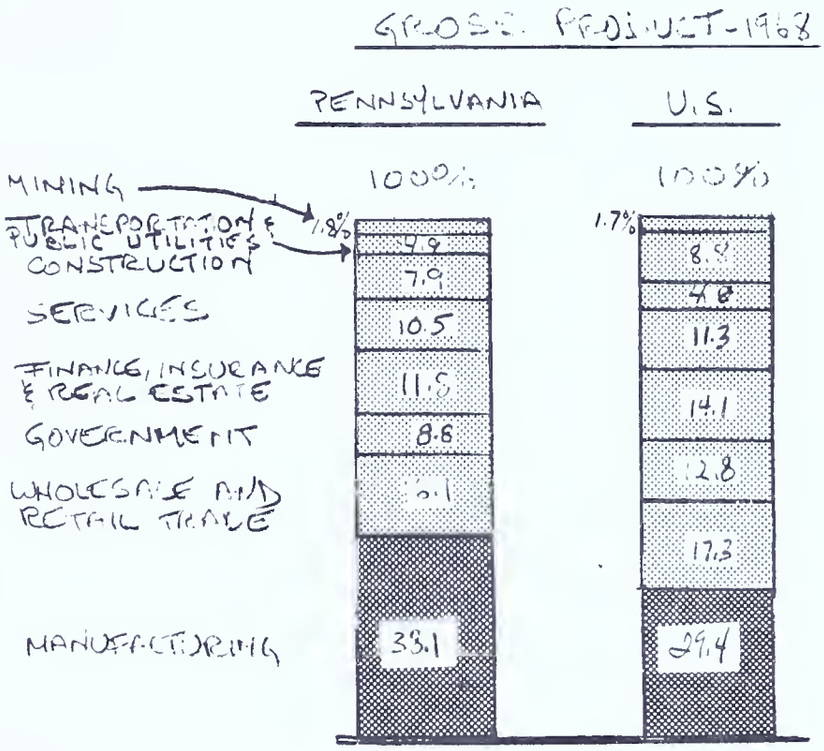
STRUCTURE OF PENNSYLVANIA'S ECONOMY

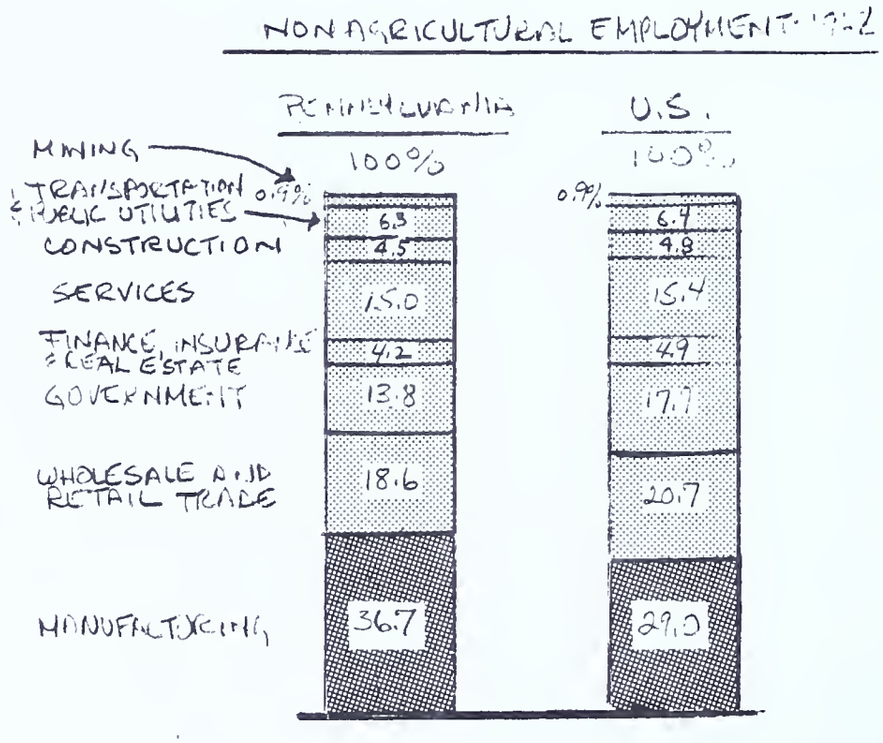
The most striking feature of Pennsylvania's economy is the predominance of manufacturing (see Exhibit I, following): 38 percent of the State's gross product originates in the manufacturing sector, and this sector accounts for almost 37 percent of total employment. In contrast, less than 30 percent of national gross product originates in manufacturing, and this sector accounts for only 29 percent of total employment nationally. As a corollary, every other sector contributes less to both output and employment in Pennsylvania than in the United States, with the exception of contract construction.

Within the manufacturing sector in Pennsylvania, there is also marked concentration. Five durable goods industries and five nondurable goods industries account for almost 80 percent of manufacturing output in Pennsylvania, and for

Exhibit I

Pennsylvania's economy is heavily concentrated in manufacturing. . . .





Sources: Pennsylvania Statistical Abstract; U.S. Statistical Abstract

about three-quarters of manufacturing value-added and employment. As shown on Exhibit II, following, these 10 industries together account for a slightly higher proportion of manufacturing output and investment in Pennsylvania than in the United States, and a significantly higher proportion of employment.

The 10 major industrial groups contain 5 in durable goods industries and 5 in nondurable goods. In terms of economic size, however, the durable goods industries predominate - contributing 60 percent of total Pennsylvania manufacturing output, over 62 percent of value added, and almost 59 percent of manufacturing employment. These five durable goods industries are - primary metals, fabricated metals, machinery except electrical, electrical machinery, and transportation equipment. This predominance of five industries makes their economic behavior of crucial importance to the State's economic performance.

These five durable goods industries have high productivity characteristics. In 1969, value added per worker averaged $15,758 in these industries, as compared to $14,487 for all durable goods industries. Value added per worker in these industries was well above the average value added per worker level for all manufacturing industry. However, value added per worker in these industries in Pennsylvania is still lower than the average for these industries at the national level. For example the primary metals industry, which accounted for 26 percent of all manufacturing investment in 1969, had a value added per worker in Pennsylvania equal to only about 95 percent of the U.S. average for the primary metals industry.

Exhibit II

Comparing Pennsylvania to the United States shows that 10 Pennsylvania industries account for . . .

. . . A slightly higher proportion of total manufacturing output and investment . . .

. . . A significantly higher proportion of employment . . . .

TOTALS

PENNSYLVANIA	79.7%	74.4%	79.6%
U.S.	77.1	65.9	76.7

Sources: Pennsylvania Statistical Abstract; U.S. Statistical Abstract

The five largest non-durable goods industries present a similarly mixed picture - diverging in some details. They account for 30 percent of manufacturing output, and somewhat lower percentages of value added, employment, and investment. These industries in which Pennsylvania predominates have a significantly higher-than-average value added per worker - $20,620 (average value added per worker in the five largest industries) - compared to

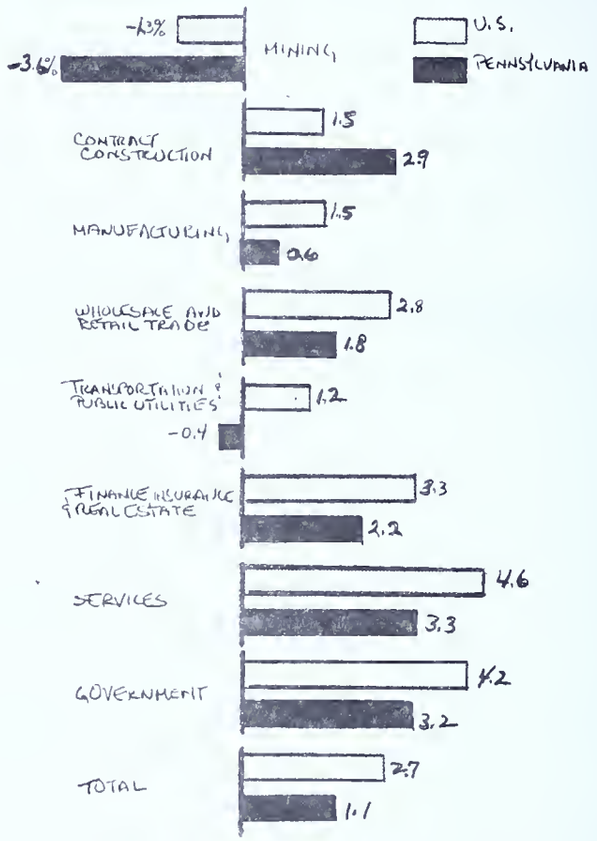
- $20,367 for all nondurable goods industries (U.S.)
- $14,487 for all durable goods industries
- $15,224 for all manufacturing industries

In summary, Pennsylvania's economy is heavily concentrated in manufacturing activities - and within manufacturing in a few key industries. As a result, it is clear that in formulating corporate tax reform policy a choice must be made among several alternatives: (1) formulating a completely neutral tax structure - which would tend to perpetuate the State's current economic structure; (2) formulating a tax structure designed to favor existing industries - which would tend to encourage even greater concentration; or (3) formulating a tax structure that favors new industries not heavily concentrated in the State - which would tend to bring the relative concentration of Pennsylvania's economic activity more in line with the national structure. A review of the existing trends in Pennsylvania's economy can offer useful insight into this policy choice.

Exhibit III

Employment gains in Pennsylvania lagged behind national employment gains during the sixties . . . .

AVERAGE ANNUAL CHANGE IN CONCENTRATION OF EMPLOYMENT 1961-1970



Sources: Pennsylvania Statistical Abstract; U.S. Statistical Abstract; Employment and Earnings, U.S. Department of Labor, 1939-1970.

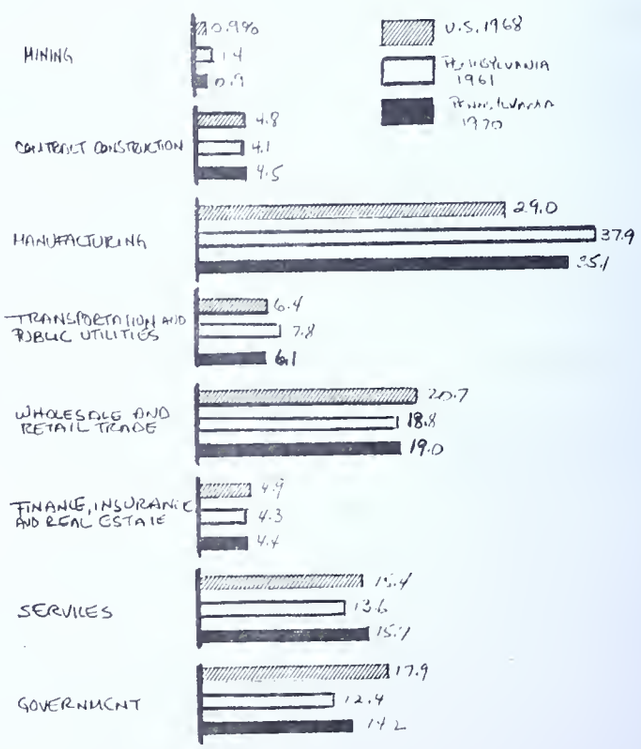
Exhibit IV

Despite the decline in manufacturing employment brought on by slow growth, it is still, by far . . .

. . . The major source of employment in Pennsylvania

. . . A much larger source in Pennsylvania than in the United States

CHANGE IN CONCENTRATION OF EMPLOYMENT 1961-1970



Sources: Pennsylvania Statistical Abstract; Department of Commerce Industrial Census Series 1966; Handbook of Labor Statistics 1971.

TRENDS IN PENNSYLVANIA'S ECONOMY

Pennsylvania has experienced slower economic growth than the nation as a whole and one of the primary reasons is the State's heavy reliance on manufacturing. Exhibit III compares Pennsylvania growth in employment to U.S. growth in employment between 1961 and 1970. As the exhibit shows, most economic sectors in Pennsylvania showed some growth in employment in the period; however, with the exception of contract construction, Pennsylvania's growth lagged behind the United States in every sector. In total, employment grew almost one-third slower in Pennsylvania than in the country as a whole.

Pennsylvania's overall growth rate in employment would have been higher except for the heavy concentration in manufacturing in the State. Manufacturing employment grew, in the decade, at an average annual rate of only 0.6 percent in Pennsylvania - compared to 1.5 percent, nationwide. By contrast, the service and government sectors (which were the fastest growing sectors nationwide) experienced average annual growth of 3.3 and 3.2 percent, respectively, in Pennsylvania - compared to 4.6 and 4.2 percent, respectively, in the nation.

The effect of the heavy concentration in manufacturing can be seen directly by noting the relative change in sectoral concentration between 1961 and 1970 (see Exhibit IV): Concentration in manufacturing declined slightly during the 60s, while concentration in the service, government and trade sectors increased. However, the shifts in concentration were not great enough to offset the already heavier concentration of employment in manufacturing. Unless the trend in the

national economy changes, Pennsylvania faces further slower relative growth in employment in the coming years. To confirm this conclusion and to understand the reasons behind Pennsylvania's sluggish growth, it is necessary to look closer at the 10 leading manufacturing industries in the State.

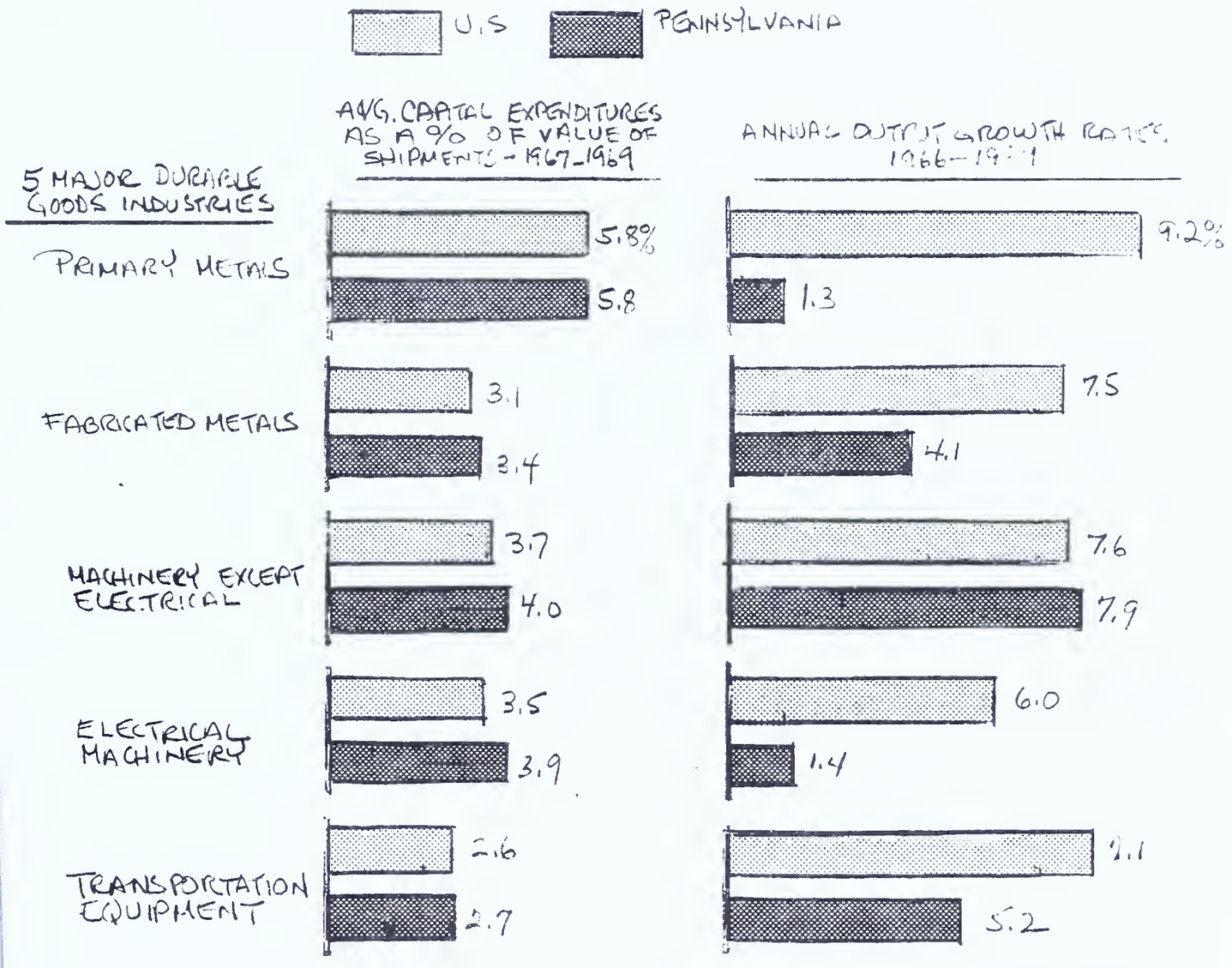
Durable Goods Industries

The five largest durable goods industries in the State are all relatively high growth industries nationwide. However, as Exhibit V shows, Pennsylvania has not shared this favorable growth in four out of the five industries - despite the fact that investment in these industries in Pennsylvania exceeded the proportion of investment at the national level. The most striking difference was in the primary metals industries, where investment levels in Pennsylvania were comparable to those in the United States, but output grew at 1.3 percent compared to a national growth rate of 9.2 percent. Unfortunately, aggregate data are not available on the volume of investment that was directed toward replacement of existing capacity; but the investment and output figures together suggest that much of the investment was of a labor-saving or quality improvement rather than output-increasing, nature.

One interpretation of this might be that Pennsylvania durable good manufacturers were investing heavily to improve their competitive edge, and that the investment was of the kind that would yield long-term gains as opposed to short-term results. If so, this augurs well for Pennsylvania's economic future.

However, the immediate impact of slow output growth, together with labor saving investment, has been a decline in manufacturing employment. A

Despite high relative investment, Pennsylvania did not share in the national growth of output in the five largest durable goods industries . . . .



Sources: U.S. Statistical Abstract; Pennsylvania Department of Commerce Industrial Census Series; Pennsylvania Statistical Abstract

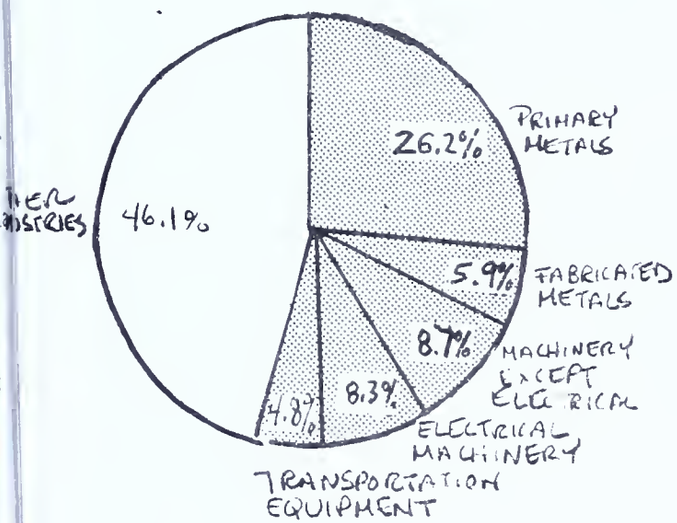
continuation or strengthening of current investment trends may have adverse implications for employment levels in the State. For the manufacturing sector as a whole, employment declined 4.4 percent in Pennsylvania during the period 1966-1970, as compared to a 0.7 percent decline in the United States. But the durable industries experienced the largest employment decline (with the exception of nonelectrical machinery). Specifically, employment in transportation equipment, primary metals, electrical equipment, and fabricated metals declined between 1966 and 1970 by 10.7 percent, 10.5 percent, 8.1 percent and 5.6 percent respectively, compared to national declines of 4.9 percent and 3.3 percent in the first two industries and national increases of 2.0 and 2.6 percent in the last two industries.

This picture of Pennsylvania's economy is reinforced by correlating investment shares and growth rates. A large proportion of investment in Pennsylvania is going to industries with low-growth rates in Pennsylvania (see Exhibit VI). The primary metals industry took 26.2 percent of all manufacturing investment in 1969, but experienced an output growth rate of only 1.3 percent. The five durable goods industries together accounted for over half of total manufacturing investment, but grew slower over the 1966-1969 period than the average for the entire manufacturing industry in the State.

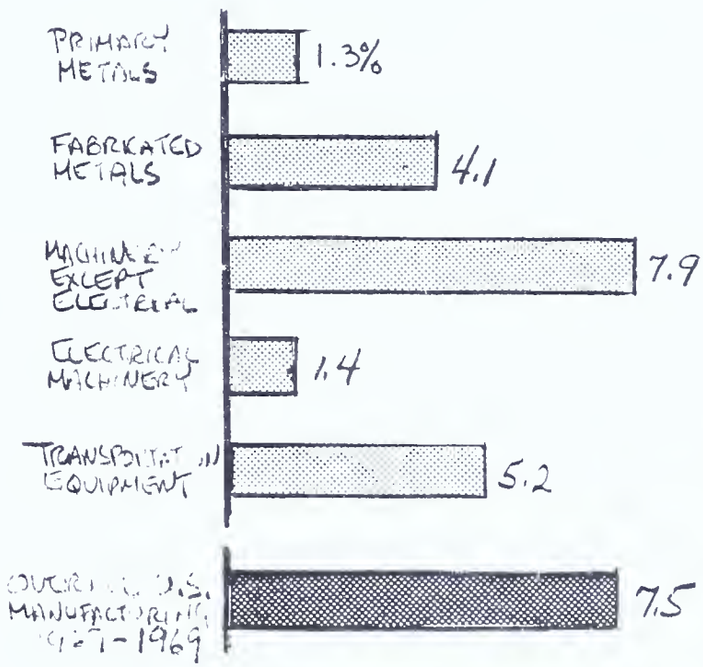
As one would expect in view of the investment trends outlined earlier, value added per worker increased significantly over the 1966-1970 period: The averag

Investment in Pennsylvania is concentrated in five major industries which are growing relatively slowly . . . .

MANUFACTURING INVESTMENT



OUTPUT GROWTH RATE 1966-1969



Sources: Pennsylvania Department of Commerce Industrial Census Series; Pennsylvania Statistical Abstract.

increase for the five durable goods industries was over 20 percent. However, in two of the five industries, wage increases have more than kept pace with productivity increases; in the electrical machinery sector, wages increased twice as fast as productivity. And, as noted above, the improvement in Pennsylvania's competitive capabilities was not great enough to bring Pennsylvania up to national productivity levels (see Table 1):

Table 1

Industry	Increase in Value Added Per Worker 1966-1970	Increase in Unit Wage 1966-1970	Value Added Per Worker Pennsylvania/U.S. Ratio - 1969
Primary metals	13.7%	17.7%	0.948
Fabricated metals	23.2	20.3	0.939
Machinery, except electrical	27.3	22.3	0.909
Electrical machinery	11.8	25.7	0.972
Transportation equipment	25.7	21.4	0.891
Average five industries	20.3%	21.9%	0.932

Source: Pennsylvania Department of Commerce Industrial Census Series 1966; Pennsylvania Statistical Abstract 1972; U.S. Department of Labor - Bureau of Labor Statistics - Employment and Earnings 1939-1970; U.S. Statistical Abstract 1971.

This fact alone suggests that it will be some time yet before Pennsylvania's key industries share in favorable national growth trends.

Nondurable Goods Industries

The overall trends in nondurable goods industries is different in certain key respects - but no more favorable. The five key nondurable goods industries in Pennsylvania's economy have not grown as fast nationally as have other industries; however, Pennsylvania has shared more completely in what growth there has been in these industries - compared to the State's performance in its five largest durable goods industries.

Table 2

Average Annual Output Growth Rates

	United States 1960-1969	Pennsylvania 1960-1969
Food	5.6%	4.7%
Apparel	6.9	3.1
Paper	8.0	9.0
Chemicals	6.7	5.7
Petroleum refining	5.4	8.0
Average, five industries	6.5%	6.1%
Average, all manufacturing	7.5%	4.5%

Source: U.S. Statistical Abstract 1970, 1971; Pennsylvania Statistical Abstract, 1971.

Further, while Pennsylvania's investment rates were higher than U.S. investment rates in three of the five industries, output growth was

- ¶ Below national growth rates in two low investment industries (food and apparel)
- ¶ Below national growth in one high investment industry (chemicals)
- ¶ Higher than U.S. growth in
  - One industry with a moderate investment rate (petroleum refining)
  - One industry with a high investment rate (paper)

Overall, then, these are above-average growth industries in Pennsylvania, but relative to other manufacturing industries, slow-growth industries in the United States.

* * *

In summary, a major proportion of current investment in Pennsylvania is in industries whose growth rates in Pennsylvania are slow. Relatively much less of Pennsylvania's investment is directed at industries with higher Pennsylvania growth rates (the nondurables). This may be because the national growth rate of these industries nationwide is sufficiently below the growth rates of other manufacturing industries to affect expectations of future expansion patterns in Pennsylvania. However, the net result of these trends is that there has been a loss of manufacturing employment in recent years in Pennsylvania and this trend is not likely to reverse itself soon.

IMPLICATIONS FOR TAX POLICY

The nature of Pennsylvania's economy presents a number of choices for the role taxes might play. For example, because much of Pennsylvania's current sluggish growth outlook is the result of the State's heavy concentration in manufacturing, taxes might be used to stimulate the development of other sectors - e.g., services. Such a policy approach might pay off in terms of State tax receipts over a longer term by stimulating faster future growth.

This policy, however, would ignore the problems faced by some of Pennsylvania's most important manufacturing industries, such as primary metals. These industries are experiencing relatively slow growth in Pennsylvania because of their relatively noncompetitive position (as measured by value-added per worker) vis-a-vis the rest of their respective industries. Their growth could improve dramatically if their competitive position could be improved. And in fact, most of these industries have been investing heavily - in excess of national investment levels - in an effort to catch up. Tax policy could assist them in such efforts (through, for example, special investment tax credits) - with a possible near-term gain in the State's economic outlook.

Either of these two approaches, however, would be at the expense of employment: In the first case, industries which are large employers would (relatively) be penalized; in the second case, these same industries would be helped to reduce their dependence on employment through productivity-improving

investment. Given overall employment trends in the State, neither of these two alternatives may be entirely attractive. A third alternative then might be to stimulate employment by:

- Reducing corporate tax burdens overall and equally across sectors to encourage overall economic growth
- Tying specific tax incentives to some form of employment maintenance commitments from the corporations receiving the benefit.

Such a balanced tax policy approach might offer the greatest near- and long-term benefit to Pennsylvanians.

In summary, from the outset it is clear that very fundamental policy choices need to be made. To ensure that the chosen policy is served by the tax program selected to implement it, each tax option must be evaluated in terms of the relative sectoral benefits it offers to Pennsylvania corporations.

2 - TAXES AS A FACTOR IN CORPORATE DECISION MAKING

The direct burden of corporate taxes is on the corporation paying the tax. The tax burden, like other costs of doing business, becomes a factor in many corporate decisions - e.g., pricing, investment, dividend policy, wage negotiations. Understanding how and the degree to which taxes influence corporate decisions would be extremely valuable in formulating corporate tax policy.

Unfortunately, determining the precise economic impact of corporate taxes on a corporation's decision-making process is virtually impossible. Theoreticians have advanced many different models of tax impact; none of these models has been able to explain completely the response of real corporations to taxation situations. Empirical studies of corporate response to taxes have further confused the theoretical arguments by demonstrating that a wide range of responses seems to occur even under similar taxing situations.

In fact, any other result of empirical studies would be suspect in a free enterprise economy. For example, the vast majority of the transportation sector is private in the United States. As "profit maximizing" corporations, transportation companies are confronted with choices as to how to respond to taxation situations. However, their range of choice is much restricted - both by the regulatory power of government and especially by the captive and fixed nature of the market they serve (or the service they provide). Similar constraints limit the possible responses of firms in the trade sectors and much of the service

sector. By contrast, manufacturing concerns, especially those producing for national or multinational markets have an almost unrestricted range of choice - including the choice to relocate outside of a particular taxing jurisdiction.

Moreover, it would be unrealistic to expect all corporate taxpayers to respond in a perfectly "economic" fashion to taxes. The perceptions of corporate executives of the impact of taxes on their business may be more important than the reality of the actual economic impact of taxes. The perceived, rather than real tax burden, may be more important at the state or local level than at the national level because relative tax differentials among taxing jurisdictions may be a significant influence on many corporate decisions. For example, executive of large manufacturing companies, rationally or not, may choose to locate their facilities in areas with a good "tax climate" even though the real economic advantage of locating in these areas might be minimal.

In this chapter we discuss, qualitatively, the impact of corporate taxes on corporate decision making. The chapter contains two sections:

- Incidence of corporate taxes
- Influence of taxes on corporate locational decisions.

In both sections our focus is on developing criteria for making corporate tax policy choices.

To summarize our conclusions as developed in the remainder of this chapter:

- Policy choices should be made on the basis of the relative direct burden of corporate taxes on different sectors of the economy.

Indirect corporate tax burdens are not well understood or easy to predict. For policy to be formulated in a rational way, it is therefore necessary to look primarily at the direct burden of different tax options - and only secondarily at the ultimate burden of the tax on individuals.

¶ Corporate taxes - especially corporate net income taxes - can have a significant influence on investment decisions made by large manufacturing and some service companies. Since both of these sectors are of primary importance in establishing the economic condition of a taxing jurisdiction, corporate tax reform policy must consider the possible effects of tax changes on the investment decisions of these companies. One means of measuring the relative attractiveness of different corporate tax reform options is the relative tax burden imposed by each option on companies in the affected sectors.

¶ Comparative analysis of interjurisdictional tax burdens is also important in formulating tax policy to the extent that taxes do play a role in the locational decisions of some key companies or industries.

These conclusions are discussed in more detail below.

INCIDENCE OF CORPORATE TAXES

The economic impact of a tax depends primarily on who ultimately bears the burden of the tax - not necessarily on who pays the tax. In the case of corporate taxes, corporations pay the tax (and can be said to bear the direct

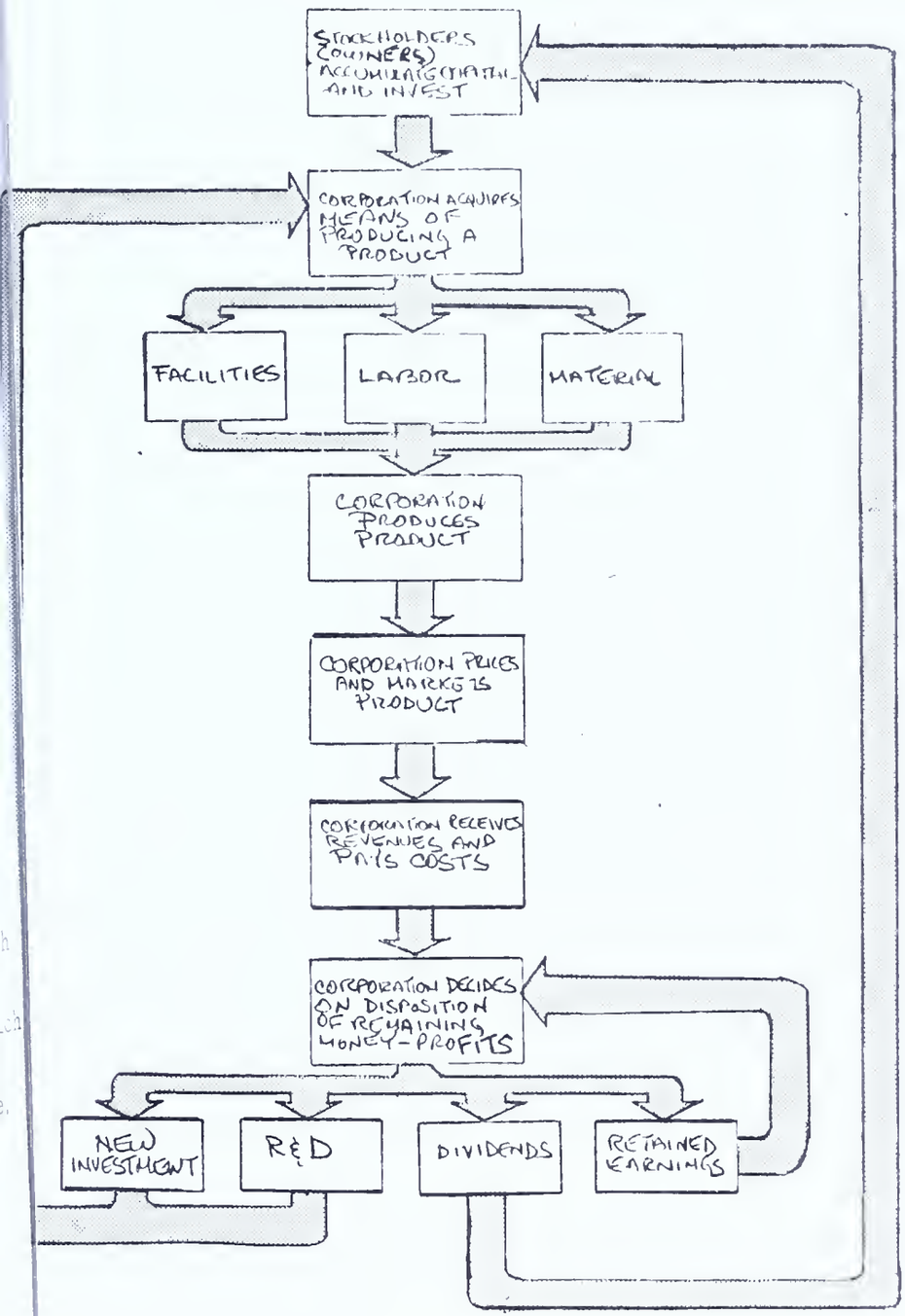
burden of the tax); who ultimately bears the tax burden, is, however, still a matter of considerable debate in economic circles. This is primarily the result of the wide range of possible corporate responses to taxes - and the varying implications for incidence of these different responses.

For example, Exhibit VII shows, in schematic form, a simplified model of the workings of a typical corporation. Within this model, taxes represent another cost of doing business; depending on the level of taxes, the capital structure of the firm, the nature of the markets in which the firm competes, the labor market conditions near the firm's facilities, and many other factors, different corporate responses to the tax burden are possible.

For example, it is conceptually possible for a firm to respond to taxes in the following ways:

- ¶ Lower other costs of doing business (e.g., restrict wage rate increases to compensate for taxes paid). Under this alternative, the ultimate tax burden would be borne by the workers or suppliers of the company. Such an approach might be chosen by a company which had easy access to multiple sources of raw material and/or one which worked in an area with an excess supply of the required labor force.
- ¶ Increase product prices to cover the "cost" of paying taxes. With this approach, the corporation tax burden would fall on the consumers who purchase the company's products. Such an alternative might be chosen by a company competing in relatively price-inelastic markets.

HOW A TYPICAL CORPORATION WORKS



POSSIBLE CORPORATE RESPONSES TO TAXATION

Lower other costs of doing business to compensate for taxes paid

Increase product prices to cover the cost of paying taxes

Lower dividends the amount of the tax and keep other factors constant

Decrease investment or R & D spending to compensate for tax costs

¶ Lower dividends the amount necessary to offset taxes and keep other factors constant. With this alternative, the ultimate burden of the taxes would fall on the stockholders (or owners) of the company. This alternative might be chosen as a response to state and local taxes by a company competing in national price-competitive markets.

¶ Decrease investment or R & D spending to compensate for tax costs. Under this alternative, the ultimate burden of the tax would be borne by future generations of both workers and investors - who suffered from the effect of slower economic growth. Such an alternative might be chosen by an old-line "blue-chip" firm which

- Was constrained by stock market conditions to a fixed dividend-level policy
- Had little remaining labor force/supplier leverage because of its high visibility
- Competed in price-conscious national or international markets

(It could be argued that many of Pennsylvania's basic industries roughly fit this scenario - although proof of the assertion would be difficult.)

In addition, combinations of the above corporate responses are possible; nor is the above list comprehensive.

As noted in the introduction to the chapter, an overriding determinant of a company's response to corporate taxes is the nature of the company's business. For example, many businesses have a relative restrained set of choices, specifically:

- ¶ Transportation and utility companies are typically constrained to provide services to the local markets they serve
- ¶ Wholesale and retail trade businesses for the most part are constrained by the location of their facilities (which, with few exceptions serve relatively localized markets)
- ¶ Finance, insurance and real estate companies are constrained either by the markets they serve or by the location of their major facilities (such as the home office of an insurance company)
- ¶ Many small manufacturing companies and most service enterprises are closely tied to local markets.

In net, only large or specialized manufacturing companies and some business services enterprises have a fairly full range of choice in their responses to corporate taxes; however, even these firms are often constrained by their economic situation at any point in time. Since the ultimate incidence of corporate taxes depends on what response companies take to offset their tax burden, it is difficult to make any firm judgments about what corporate tax incidence might be like.

In fact, economic theory has been unable to answer conclusively the question of incidence because different tax shifting results may occur depending

upon one's basic assumptions. Further, empirical studies (based on national data) have also failed to resolve the issues. For example, one study by M. Kizyzaniak and R. A. Musgrave, concluded through the application of econometric principles that the corporation income tax was shifted forward resulting in higher consumer prices.* At almost the same time, a second study concentrating on the manufacturing sector concluded that it is not shifted forward, but rather, absorbed by stockholders.**

Yet the issue of incidence would appear to be crucial in formulating tax reform policy. If a corporate income tax is acknowledged as shifted backward and the burden seen as falling upon stockholders then the fact that the latter tend to be in high income groups may suggest the relative progressivity of such a tax. Conversely, if the tax is assumed to be fully or even partially passed on to the consumer then that portion extended in such a manner may be reflected in higher consumer prices - thus displaying the regressive incidence structure which characterizes most sales taxes. Only the impossibility of resolving this issue prevented us from giving it more prominence in the remainder of this report. In addition, we concluded that the soundest basis for making corporate tax reform decisions was a comparison of the relative direct burden of corporate taxes.

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* - M. Kfzyzaniak and R.A. Musgrave, The Shifting of the Corporation Income Tax, Johns Hopkins Press, 1963.

** - Challis Hall, Jr., "Direct Shifting and the Taxation of Corporate Profits in Manufacturing, 1919-1959," Proceedings of the American Economic Association, 1963, pages 731-758.

EFFECT OF CORPORATE TAXES ON LOCATIONAL DECISIONS

As mentioned above, one possible response, especially of certain kinds of companies (e.g., large manufacturing and some service firms) to corporate taxes is to change investment plans. While the number of companies which can so respond to a taxation situation is relatively small, their responses are crucial in establishing the economic condition of a taxing jurisdiction. For example, in Pennsylvania, manufacturing accounts for almost 40 percent of the State's total economic activity, and within manufacturing, the large durable goods industries account for about 25 percent of the State's overall economy. Clearly, the investment response of corporations in the manufacturing sector play a large role in determining the State's overall economic vitality.

Three kinds of investment decisions by these companies may be influenced, at least to some extent, by the State's tax structure: (1) expansion of existing facilities; (2) research and development expenditures; and (3) investment in new facilities. To assess the effect of corporate taxes on the first two of these investment choices, the relative burden of different tax options on companies within affected sectors can be evaluated. (The analysis described in Chapter 4 evaluates the relative burden on model companies of eight tax reform options.) To assess the effect of taxes on decisions to create new facilities, interjurisdictional tax burdens need to be considered because of the locational parameters of such decisions.

An economic argument could be constructed whereby perfect conditions of equality are presumed among competing localities - thereby suggesting the importance of a differing tax burden in making locational decisions. However, such a situation is highly unlikely under real conditions. Considerable variations in input costs for firms - materials, direct and indirect labor and overhead among states and within the state is very much the rule. In a study of cost factors including the above, plus capital cost and state and local taxes, variation was shown to be so great, particularly in wage rates and related taxes as a percentage of sales that a "tax critical" instance was defined as existing in only 2 percent of the comparable industries examined.*

In addition, most firms simply do not have the resources for exact calculation of all factors involved in locational decisions - thus resulting in what might be less than "economic" decision making. Further, to the extent to which costs can be ascertained, it is the combined cost, tax plus other costs, which would influence a location decision. If tax costs are a small portion of a firm's total costs they would appear to be less important in a location decision.

However, taxes - even when a small part of the total cost - may still be a key indirect influence on locational decisions. For example, a 1963 survey of key executives by Fortune magazine found that, other than basic economic

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* - William V. Williams, "Measurement of the Impact of State and Local Taxation on Industrial Location," Hamline University, St. Paul, Minnesota, 1962.

prerequisites, the community attitude toward industry was of utmost importance as an influence on executives making a location decisions. Table 3 lists the factors mentioned by executives in order of importance.

Table 3

Factor Affecting Location Decision	Percentage of Respondents Including as of Five Most Important
Community attitude toward industry	95.4%
Good employer-employee relations in state	90.6
Productivity of workers	87.8
Political calm and stability	54.6
Educational opportunities	51.8
Local or state tax concessions	33.8
Availability of training facilities	19.5
Recreational opportunities	14.0
Local- or state-sponsored financing	13.5
Population	12.9
Good weather	10.2
Cultural opportunities	9.9

As would be expected from their often limited economic impact, taxes (or in this survey, tax concessions) ranked relatively low on the list; however, a state's tax climate could well be a major contributor to the executive's perception of a favorable "community attitude toward industry" - the most important factor in the minds of the executives surveyed. As John Strasma, a tax expert suggests: "States with bad tax reputations will probably never realize how many

firms have eliminated them without serious consideration of their communities as locations."* This fact may be particularly significant in Pennsylvania where the high state corporate net income tax is probably suggestive to many of a poor state tax climate.

It is clearly difficult to assess, with any degree of certainty, the effect of different corporate tax reform options on executive perceptions of the state's industrial climate. However, detailed knowledge of relative interjurisdictional tax burdens on typical companies can offer the tax policy maker some insight into the likely perception of specific tax structure changes. To this end, the following chapter presents a detailed comparison of the tax burden on typical companies in Pennsylvania to the tax burden imposed on the same types of companies in surrounding states.

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* - John D. Strasma, State and Local Taxation of Industry (Report No. 4; Federal Reserve Bank of Boston, 1959), page 7.

3 - INTERSTATE COMPARISON OF CORPORATE TAX BURDENS

Pennsylvania collects general fund revenues from 13 significant taxes of which 6 are imposed directly on corporations. Four of these six, however, are imposed on only some corporations - such as utilities and financial institutions. Therefore at the state level, the corporate net income and capital stock taxes are the two major taxes on those corporations (e.g., large manufacturers) for which interjurisdictional tax comparisons are most relevent.

Corporate taxes were estimated to account for approximately 30.4 percent of all state tax revenue in fiscal year 1971-1972; and the corporate net income tax and capital stock tax, were estimated to contribute 21.7 percent of all tax revenue in fiscal year 1971-1972 - 15.4 percent and 6.3 percent, respectively.

Pennsylvania has one of the highest corporate net income tax rates in the United States and even at the lower 11 percent rate instituted July 1, 1972, it remains from 2 to 7 percentage points higher than the comparable tax rates in states bordering the Commonwealth. As a result, the percentage of total state tax revenue derived from the corporate net income tax is considerably higher than that in bordering states. More importantly, the high state rate may be suggestive to many of a poor climate for industry in the state.

To find out whether the state's corporate tax situation is competitive with other states, a comparison of relative tax burdens on typical corporations

Exhibit VIII

The total (state and local) tax burden on corporations in 1967 was higher in all states bordering Pennsylvania except Maryland . . . .

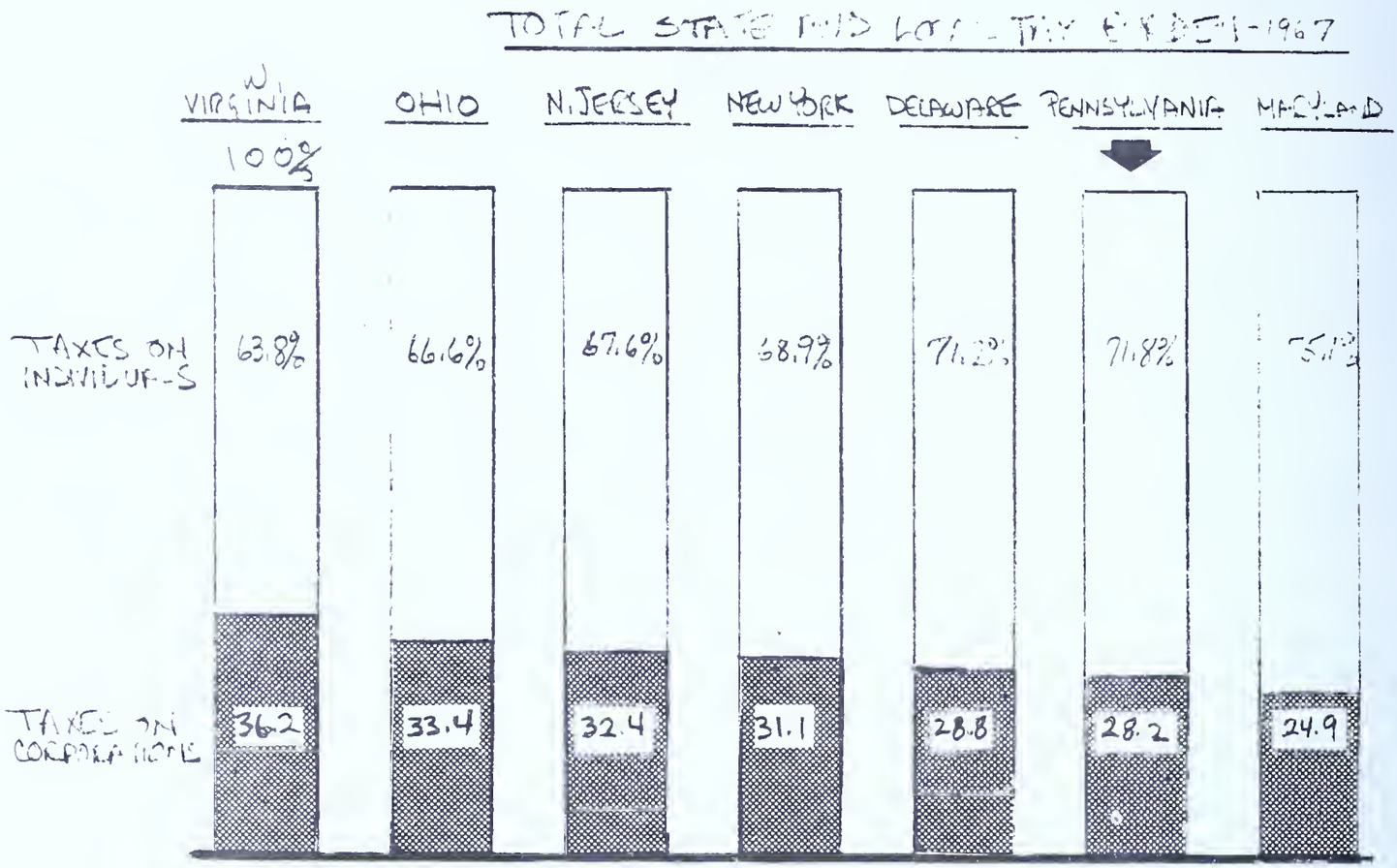
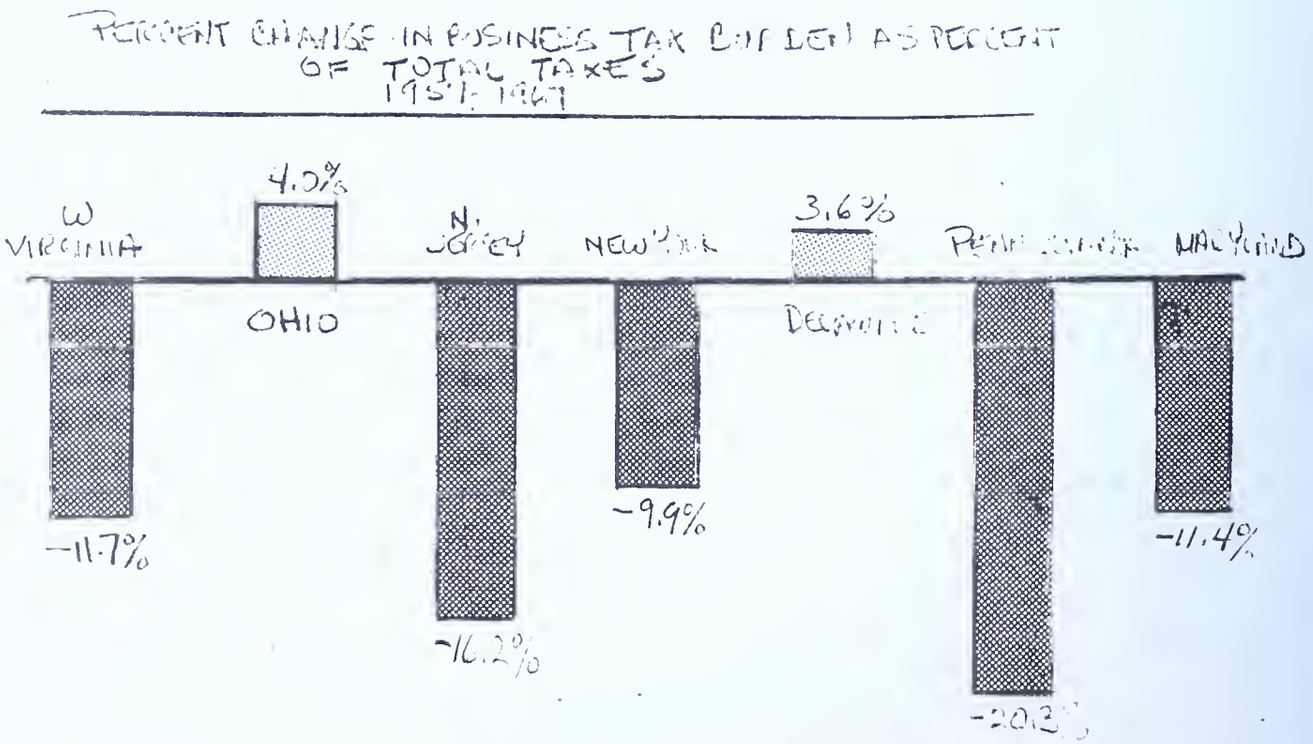


Exhibit IX

Between 1957 and 1967, the relative tax burden on corporations decreased most rapidly in Pennsylvania . . . .



Source: McKinsey calculations based on data in ACIR State-Local Finances.

is necessary. The comparison must include both state and local taxes on corporations - since these latter are often quite significant. This chapter describes such a comparison.

PENNSYLVANIA'S SITUATION IN 1967

In 1967, the last year for which published data are available, Pennsylvania's governments - state and local - collected 28.2 percent of total tax revenues from corporations - compared to Ohio's 33.4 percent and New Jersey's 32.4 percent (see Exhibit VIII). These figures represent statewide averages which may be somewhat misleading due to the wide variation among specific municipalities. Also, in 1967, the year of the comparison, Pennsylvania's corporate net income tax rate was still at the relatively modest rate of 6 percent - 5 percentage points below its current level.

Between 1957 and 1967, the relative tax burden on business declined for four of the six states bordering Pennsylvania; the decline was most marked in Pennsylvania (Exhibit IX). However, since 1967, Pennsylvania and Ohio have radically altered their tax structure with imposition of an increased corporate net income tax in the case of Pennsylvania in 1970 and a new corporate income tax of 8 percent levied by Ohio in 1971. These changes suggest a recent significant worsening in the position of Pennsylvania's business taxation relative to bordering states - with the possible exception of Ohio. Because more recent published data are not available, we have prepared a detailed computation of current relative tax burdens to confirm such a conclusion.

PENNSYLVANIA'S CURRENT COMPETITIVE POSITION

In order to get a picture of the relative corporate tax burden in Pennsylvania compared to surrounding states, the tax burdens now borne by five hypothetical manufacturing corporations* displaying different financial characteristics and located in seven different communities were computed and compared. The total state and local tax burdens for these companies are compared for Philadelphia, Baltimore, Wilmington, Newark, Cleveland, and Wheeling. (The same type of comparison could be made for other selected localities.) The five hypothetical corporations selected, and their characteristics were:

- Type A — Low inventory, low-fixed capital investment, high-labor content, low profit, 150 employees
- Type B — Low inventory, high-fixed capital investment, medium-labor content, medium profit, 200 employees
- Type C — High inventory, low-fixed capital investment, high-labor content, medium profit, 150 employees
- Type D — High inventory, high-fixed capital investment, medium-labor content, medium profit, 100 employees
- Type E — High inventory, high-fixed capital investment, medium-labor content, high profit, 100 employees

Each of these model companies was characterized in financial terms in the form of comparative balance sheets, operations statements, cost of goods sold schedules and pertinent employment information. The size of the corporations

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* - As noted earlier, the comparison of interjurisdictional corporate tax burdens is most relevant for manufacturing corporations.

in terms of annual sales ranges from $2.45 million to $5.50 million with the total number of employees remaining under 250. While the range of asset size does not cover the spectrum of potential corporations, the medium-sized firms included in this study are representative of a large number of manufacturing corporations in the selected cities, thus permitting easy comparison of differing total tax impact for a large number of Pennsylvania's corporations. A detailed description of these corporations is shown in Appendix A.

In order to compare relative tax burdens every relevant tax must be included in the calculations. In the example discussed, this required calculating tax burdens of all 5 corporations under 12 different taxes as shown in Table 4 (following page).

A number of standardizing assumptions were required to ensure that the "tax situation" of each corporation was comparable from location to location. The detailed assumptions made are discussed in Appendix B. Some of the major assumptions included:

- ¶ Each corporation is organized to do business only in one state
- ¶ Each corporation is a 1-plant operation
- ¶ Each corporation qualified for the minimum unemployment tax rate in effect in the jurisdiction.
- ¶ All products are sold within the city of location (which tends to overstate Philadelphia's tax burden because it precludes apportioning rules and lowering the City's gross receipt to tax)
- ¶ All production inventory items are purchased from suppliers within the state

¶ All corporations qualify for sales tax exemptions on all their purchases

¶ Property taxes paid by the corporations in all of the locations have not been affected by extra-legal negotiations or agreements

¶ Each corporation has $100,000 of $1 dollar per value capital stock issued and outstanding.

Table 4

TAX	WHERE APPLICABLE						
	Wilmington Delaware	Baltimore Maryland	Newark New Jersey	Buffalo New York	Cleveland Ohio	Philadelphia Pennsylvania	Wheeling West Virgi
State Taxes							
1. Annual report fee	-	-	X	-	-	-	-
2. Franchise	X	X	X	-	-	-	X
3. Corporate net income tax	X	X	X	X	X	X	X
4. Personal business property tax	-	-	X	-	-	-	-
5. Manufacturer's tax	X	-	-	-	-	-	-
6. Occupaticnal gross income tax	-	-	-	-	-	-	X
7. Unemployment insurance tax	X	X	X	X	X	X	X
8. Disability benefit tax							
Local Taxes							
1. Real property tax	X	X	X	X	X	X	X
2. Personal property tax	-	-	-	-	X	-	X
3. Gross receipts tax	-	-	-	-	-	X	-
4. Municipal income tax	X	X	-	-	X	X	-

Exhibit X, following, based on this analysis, shows that Philadelphia consistently ranks high* in relative tax burden compared to the other locations considered. In fact, as the exhibit shows, the tax burden in Philadelphia is well above the average of the 7 states (including Pennsylvania). Specifically, for Corporation A, Philadelphia's total tax burden was 15 percent above the average of all locations - with the tax burden for all cities other than Wheeling at or below the 7-city average. In the case of Corporation B, Philadelphia was 28 percent above the 7-city average, with a considerable higher tax burden than the 5 cities other than Wheeling and within $2,500 of the tax burden of that city. For Corporation C, Philadelphia was once more second in overall dollar tax burden, 13 percent above the 7-city average but well below Wheeling. Corporation D was the only hypothetical firm for which Philadelphia dropped in rank. Its third position, however, at 18 percent above the 7-city average and less than $2,000 below Cleveland, the second most expensive city, dilute the impact of that result. In the case of Corporation E, Philadelphia was again far more expensive than the 7-city average, with a total dollar burden less than $1,500 lower than Wheeling, the highest tax burden - 29 percent above the average.

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* - We assume that all sales are made within the city and hence, are subject to the Philadelphia gross receipts tax. Sales cut of the city are not subject to this tax - and the tax burden in Philadelphia drops dramatically if a significant proportion of sales were assumed to be out-of-city and hence tax exempt. To see the effect of out-of-city (tax exempt) sales, please refer to the detailed calculations shown in Appendix C.

Exhibit X

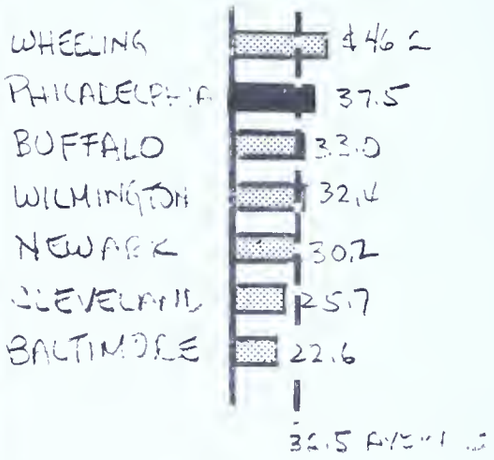
Philadelphia consistently ranks high in terms of relative corporate tax burden . . .

. . . For all five corporations, higher than the average of all seven states

THOUSANDS OF DOLLARS

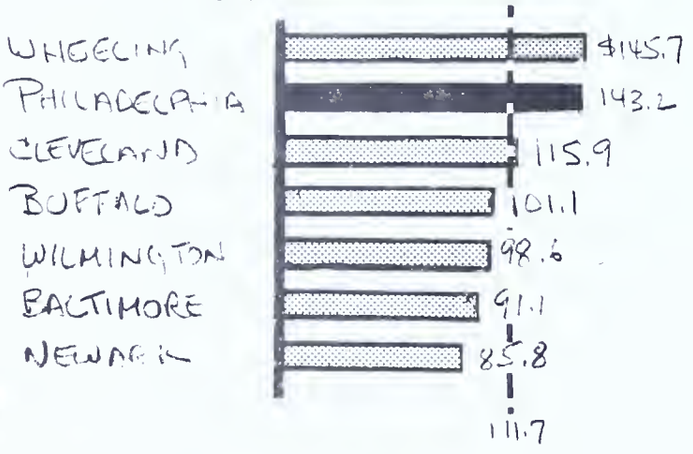
CORPORATION B:

Low inventory
Low capital investment
High labor content
Low profit
150 employees



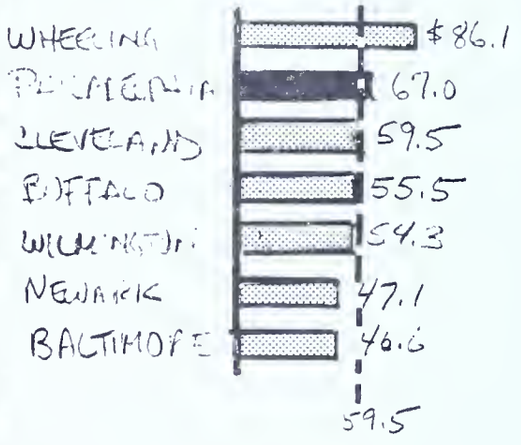
CORPORATION A:

Low inventory
High capital investment
Medium labor content
Medium profit
220 employees



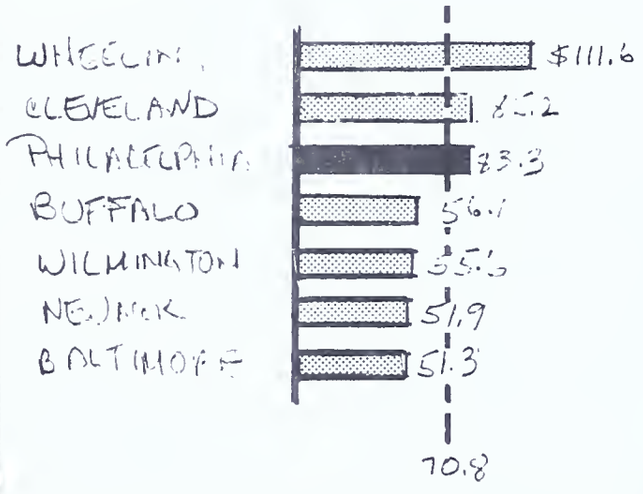
CORPORATION C:

High inventory
Low capital investment
High labor content
Medium profit
150 employees



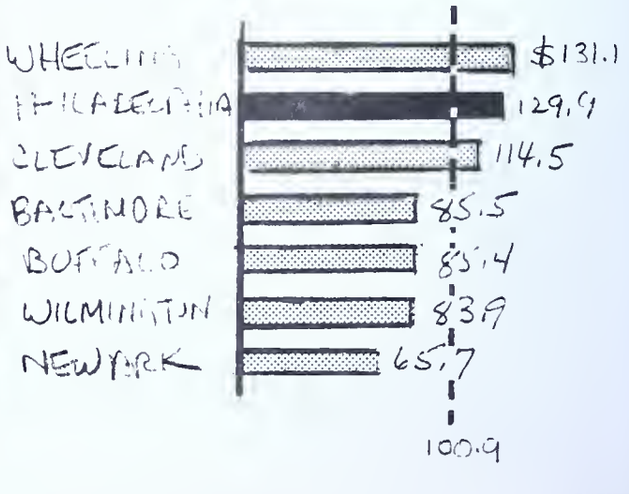
CORPORATION D:

High inventory
High capital investment
Medium labor content
Medium profit
100 employees



CORPORATION E:

High inventory
High capital investment
Medium labor content
High profit
100 employees



Source: McKinsey calculations.

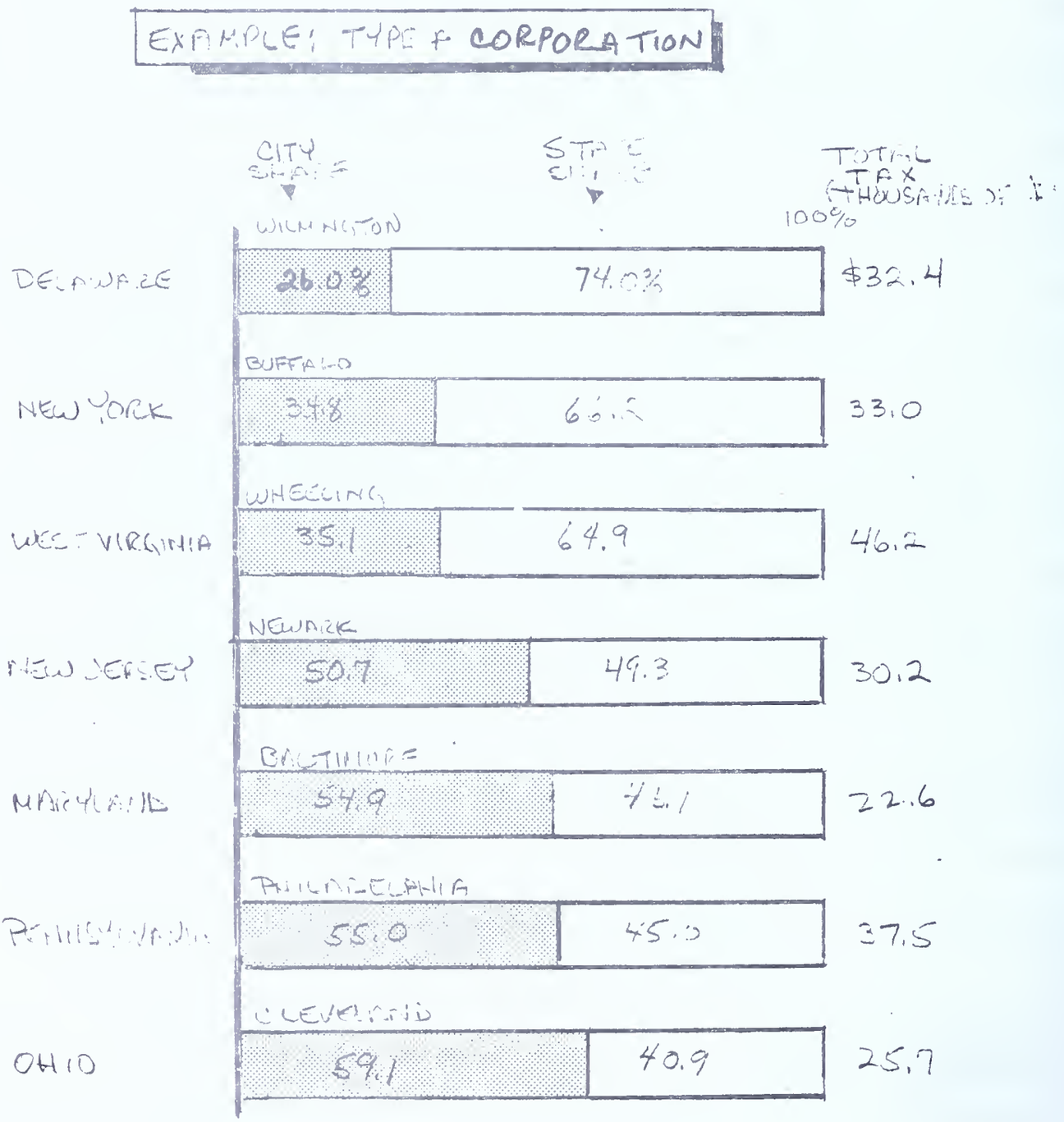
The consistency of Philadelphia as a high total tax burden city results from high-local taxes. As Exhibit XI, following, shows, for any firm (hypothetical Corporation A in this case), the mix of state and local taxes varies widely. In this example, local taxes in Philadelphia ($20,624) were the highest among the seven locations, 25 percent higher than Wheeling, West Virginia, and between 30 percent and 150 percent higher than the remaining bordering states. The domination of Philadelphia local taxes in this case is attributable to the high-gross receipts tax (a tax not levied in any other location) that accounts for 50 percent of total local taxation and the fact that in the analysis we assumed that all of the model company's sales were subject to the tax.

On the state level, Philadelphia taxes for Corporation A were $16,861 or only 44 percent of the total state-local tax burden in Philadelphia. In state taxes alone Pennsylvania ranked fourth highest, 78 percent lower than West Virginia, 42 percent lower than Delaware, and 27 percent lower than New York, while their state tax burden was 13 percent greater than New Jersey, and approximately 60 percent greater than the state taxes for Maryland and Ohio. In total, Philadelphia ranked second highest in local taxes but only fourth highest in state tax burden. Nevertheless, its combined state-local tax burden made it the second highest taxing location.

The pattern of differing ranking when total state and total local taxes are considered separately for the five hypothetical firms is represented in Exhibit XII, following. From the exhibit, it is clear that the specific financial

Exhibit XI

The mix of state and local tax burdens varies widely . . . .



Source: McKinsey calculations.

RELATIVE TAX RANKING OF SELECTED LOCATIONS FOR FIVE HYPOTHETICAL CORPORATIONS

Total State Taxes

Corporation	A	B	C	D	E
1	Wheeling	Wheeling	Wheeling	Wheeling	Philadelphia
2	Wilmington	Philadelphia	Wilmington	Philadelphia	Wheeling
3	Buffalo	Buffalo	Buffalo	Wilmington	Buffalo
4	Philadelphia	Wilmington	Philadelphia	Buffalo	Wilmington
5	Newark	Cleveland	Cleveland	Newark	Cleveland
6	Cleveland	Newark	Newark	Cleveland	Baltimore
7	Baltimore	Baltimore	Baltimore	Baltimore	Newark

Total Local Taxes

	A	B	C	D	E
1	Philadelphia	Philadelphia	Wheeling	Wheeling	Cleveland
2	Wheeling	Cleveland	Cleveland	Cleveland	Wheeling
3	Newark	Wheeling	Philadelphia	Philadelphia	Philadelphia
4	Cleveland	Baltimore	Baltimore	Baltimore	Baltimore
5	Baltimore	Newark	Newark	Newark	Newark
6	Buffalo	Buffalo	Buffalo	Buffalo	Wilmington
7	Wilmington	Wilmington	Wilmington	Wilmington	Buffalo

Source: McKinsey calculations.

structure of a firm determines to a very significant degree the relative tax burden on a corporation. Thus, a state and local taxing structure emphasizing high net income taxation will result in the greatest burden to a high profit corporation such as Type E. A tax structure emphasizing high real and personal property taxes (including inventory) would result in a particularly high burden for corporations of Types E and D. Meanwhile, a tax structure emphasizing a high real and personal property tax would result in a relatively light burden on a Type A corporation. Type B and C corporations, while not as vulnerable to real and personal property taxes as Type D and E corporations, are subject to some special taxes - based on inventory in the case of Type C and fixed capital investment for Type B corporations.

IMPLICATIONS FOR TAX POLICY

Pennsylvania corporations do bear a relatively high tax burden. Although the high state corporate net income tax rate suggests a more burdensome state tax structure, our calculations suggest that it is not too far out of line with surrounding states. Thus, tax policymakers face two problems:

- Deciding on how heavy the corporate tax burden should be in Pennsylvania relative to bordering states
- Deciding to what extent the changes desired in the tax burden should be affected through changes in the state corporate tax structure (rather than changes in local taxes).

Once these policy choices are made, the approach detailed in the appendixes can be used to assess the relative advantages and/or disadvantages of specific tax options considered.

4 - CORPORATE TAXES AS A FACTOR INFLUENCING INVESTMENT

In the preceding chapters of this report, we have noted that:

- ¶ Corporate taxes can have a significant influence on investment decisions of some companies (primarily manufacturers) whose actions are critical for the state's economic well being
- ¶ Economic growth is clearly a major concern of State policymakers and since it can be influenced directly, to some extent, by the State's tax structure one criterion for deciding on corporate tax reforms is the degree to which tax options favor future growth
- ¶ The effect of corporate taxes on company investment policies vary by type of company - e.g.:
  - Corporate net income tax imposes a relatively higher burden on profitable industries
  - Capital stock taxes are most significant for capital intensive ventures.

In this chapter we present an analysis of the effects on different sectors of Pennsylvania's economy (in terms of investment potential) of a series of corporate tax reform options. Specifically, the chapter covers: (1) a brief description of the methodology used in the analysis; (2) the detailed results of the

care must be taken to identify "representative" firms both in terms of total size and financial structure (i.e., proper distribution of income statement information among cost of sales, depreciation, etc., and balance sheet data such as plant and equipment expenditures and net worth figures). Thus, an accurate picture of the economy must include representative financial structures for differing asset size classes of companies within each industry. The variation in this financial structure will itself determine to a large extent the effect of alternative tax options on the net income after tax, and thereby, the potential investible cash flow from undistributed profits.

Composition of Data Base

To fulfill these requirements, given the obvious limitations of nonspecific Pennsylvania data, we decided to design a representative economy based on U.S. Federal corporate tax return information for average financial structures for a range of company asset class sizes (using 1967 U.S. Corporate Income Tax Returns, U.S. Internal Revenue publication, 1969). Thus, while the income statement information and selected balance sheet data are based on total U.S. returns, these data nevertheless provide a stable base case against which state tax options may be tested. And most importantly, the financial structure differentiation by asset class and by industry classification provides the kind of specific variation which serves well as a basis for illustrating alternative tax impacts.

The industries used in the data base were chosen to characterize Pennsylvania's economy. In total, the data base covers 33 sectors. As discussed in Chapter 1, employment in Pennsylvania is concentrated in three areas: manufacturing, wholesale and retail trade, and services. To adequately represent the State's economy, a number of base case companies are drawn from these key sectors. However, since the investment decisions most sensitive to tax changes are likely to occur in the manufacturing sector, most of the model companies are representative of industries in this sector.

Specifically, for the manufacturing sector, SIC codes 19 through 39, the industries selected include all but three SIC codes. Since companies in these three industries contribute less than 8.5 percent of the taxes from this sector, the sample of manufacturing industries we used accounts for over 91 percent of the taxes paid by firms in this sector.

Of the industries in the trade sector, only two SIC codes are not covered, those for wholesale trade other than merchant wholesalers, and miscellaneous retail stores. The taxes paid by the industries that are covered account for over 94 percent of all the taxes paid from wholesale and retail trade establishments and about 83 percent of the firms in that sector. Though some firms are not represented, they apparently contribute only modest amounts to the State's corporate tax revenues.

The service sector, however, is not as fully represented. Four industries in the service sector are included - SIC codes 70, 72, 73, and 75. These four codes account for 45 percent of the taxes paid from the service sector and

about 50 percent of the firms active in the service industry. Therefore, while the broad range of service industries is not fully represented, the examples that are included do cover about half of that sector.

To collect the required data for each of the companies in the sample, asset size figures and the figures used for each of the 18 key accounts in the income statement were derived from the compilation of corporate income tax returns prepared by the Internal Revenue Service for 1967. The asset size brackets that the Internal Revenue Service uses is shown in Exhibit XIII. Companies in several different asset size categories were chosen for the data base. The number of companies per industry ranged from 2 to 4. Figures for total assets, net sales and other accounts in this exhibit are totals for all the companies filing returns that were in this asset size bracket. Therefore, dividing each of these figures by the number of tax returns gives an average asset size and income statement data for companies in this bracket.

However, not all of the income was necessarily earned in Pennsylvania. For tax calculation purposes, an allocation procedure was used with the allocation varying by asset size. Small companies were assumed to have all of their income earned in Pennsylvania, while the very largest companies were assumed to have smaller fractions of their income earned in Pennsylvania and more of their income attributable to sales outside the State.

An example of the form of the data base so constructed is shown in Exhibit XIV, following. The sample income statements specify the industry and SIC code for the company under consideration. In the example three retail

Table 4.—SELECTED BALANCE SHEET, INCOME STATEMENT, AND TAX ITEMS, COST OF PROPERTY USED FOR INVESTMENT CREDIT, AND DISTRIBUTIONS TO STOCKHOLDERS, BY SIZE OF TOTAL ASSETS, BY MAJOR INDUSTRY—Continued

Major industry, item	Total active corporation returns	Size of total assets: Zero assets	$1 under $50,000	$50,000 under $100,000	$100,000 under $250,000	$250,000 under $500,000	$500,000 under $1,000,000	$1,000,000 under $5,000,000	$5,000,000 under $10,000,000	$10,000,000 under $25,000,000	$25,000,000 under $50,000,000	$50,000,000 under $100,000,000	$100,000,000 under $250,000,000	$250,000,000 or more
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
WHOLESALE AND RETAIL TRADE: RETAIL TRADE: APPAREL AND ACCESSORY STORES														
Number of returns	32,701	442	11,596	8,765	8,189	2,384	844	412	39	26	6	4	1	-
	(Thousand dollars)													
Total assets	5,738,782	-	304,312	628,499	1,225,307	826,538	577,724	811,483	272,930	418,166	255,633	282,535	135,455	-
Notes and accounts receivable, net	1,252,302	-	33,925	96,471	263,730	204,487	136,317	203,320	73,188	85,938	58,483	51,559	39,675	-
Inventories	2,297,536	-	176,077	338,929	551,993	344,355	228,596	278,270	74,810	128,197	68,449	80,794	27,375	-
Cash, Government obligations, and other current assets	860,293	-	44,975	91,919	215,457	128,016	84,315	130,452	45,971	58,465	35,073	20,036	5,219	-
Other investments and loans[1]	506,882	-	7,336	29,251	54,423	39,341	57,529	73,105	37,062	56,142	31,869	85,665	34,256	-
Depreciable assets	1,309,849	-	72,915	125,867	247,633	180,847	135,908	216,080	69,401	120,930	63,787	45,475	31,006	-
Less: Accumulated depreciation	705,162	-	41,405	72,957	136,790	93,525	77,468	120,114	43,429	62,724	24,725	20,791	11,430	-
Other capital assets less reserves[2]	59,522	-	141	2,243	5,143	5,847	6,512	11,052	2,672	6,762	4,438	6,188	8,424	-
Accounts and notes payable[3]	1,521,665	-	112,092	172,941	310,713	229,008	167,262	251,534	71,398	103,943	53,710	39,732	11,135	-
Other current liabilities	428,860	-	14,549	48,122	88,[illegible]	63,033	41,919	70,695	14,850	27,468	17,429	34,184	14,956	-
Mortgages, notes, and bonds payable in one year or more	420,669	-	20,513	24,572	41,[illegible]	43,358	35,316	63,117	35,924	58,146	53,232	38,515	6,446	-
Net worth	3,342,403	-	116,273	330,031	677,[illegible]	451,921	304,369	394,326	143,477	216,509	137,346	167,733	103,124	-
Cost of property used for investment credit	101,136	86	6,458	9,839	19,83[illegible]	16,527	7,865	11,479	4,846	12,513	4,117	5,787	2,188	-
Total receipts	12,717,594	30,672	875,725	1,670,676	2,982,[illegible]	1,870,453	1,219,233	1,524,710	523,297	815,713	625,956	372,493	200,863	-
Business receipts	12,338,568	30,310	868,[illegible]52	1,657,214	2,935,[illegible]	1,836,128	1,176,730	1,455,227	475,639	748,902	603,727	351,657	199,268	-
Cost of sales and operations	7,925,844	20,233	565,674	1,066,760	1,865,[illegible]	1,130,445	760,949	880,158	314,[illegible]	491,738	473,[illegible]	230,327	126,768	-
Taxes paid	203,616	492	14,485	24,225	45,[illegible]	29,760	18,808	26,367	8,008	16,486	6,721	8,763	4,617	-
Interest paid	53,705	(*)	3,390	4,771	7,[illegible]	6,755	5,823	8,783	2,226	6,041	3,578	3,620	1,159	-
Depreciation	104,728	(*)	7,122	12,270	22,[illegible]	15,476	10,489	14,046	4,413	8,062	5,000	2,636	1,220	-
Employee benefit plans	35,612	67	411	1,088	5,[illegible]	5,729	4,516	6,400	3,288	3,399	2,181	1,341	598	-
Net income (less deficit)	460,685	-1,466	5,322	66,838	135,[illegible]	80,581	31,625	54,768	19,931	26,543	20,502	2,031	19,[illegible]	-
Net income	527,067	(*)	24,666	73,131	146,[illegible]	87,156	41,852	57,858	20,025	28,017	20,502	7,034	19,[illegible]	-
Deficit	66,382	2,442	19,344	6,293	11,[illegible]	6,575	10,227	3,090	124	1,474	-	5,003	-	-
Income tax, total	164,608	(*)	3,693	17,100	38,[illegible]	29,484	13,359	23,887	7,386	11,208	7,403	3,671	9,[illegible]	-
Surcharge	1,008	-	(4)	(4)	19[illegible]	220	81	201	50	157	19	9	78	-
Foreign tax credit	6	-	-	-	(4)	-	-	1	-	5	-	-	-	-
Investment credit	4,858	-	128	210	63[illegible]	1,159	321	557	283	885	420	141	141	-
Distributions to stockholders except in own stock	69,845	(*)	4,898	5,776	24,[illegible]	8,738	5,118	3,219	2,411	5,710	4,241	5,338	-	-
WHOLESALE AND RETAIL TRADE: RETAIL TRADE: FURNITURE, HOME FURNISHINGS, AND EQUIPMENT STORES														
Number of returns	27,687	487	9,947	5,784	7,[illegible]	2,766	1,048	462	33	12	5	1	-	-
	(Thousand dollars)													
Total assets	4,907,524	-	210,200	412,283	1,105,[illegible]	956,897	724,458	820,715	219,375	170,[illegible]	198,591	89,[illegible]	-	-
Notes and accounts receivable, net	1,952,693	-	40,265	107,877	352,[illegible]	304,310	341,907	385,939	118,109	79,726	84,446	47,367	-	-
Inventories	1,627,578	-	92,377	170,241	458,[illegible]	333,042	176,193	236,[illegible]56	61,[illegible]38	41,630	39,[illegible]6	18,701	-	-
Cash, Government obligations, and other current assets	509,763	-	30,396	59,964	133,[illegible]	83,778	63,161	65,739	14,[illegible]11	10,118	46,096	2,750	-	-
Other investments and loans[1]	202,129	-	4,032	11,595	25,[illegible]	28,384	53,085	38,705	7,[illegible]02	13,[illegible]32	14,466	-	-	-
Depreciable assets	859,314	-	66,[illegible]11	94,287	190,[illegible]	159,196	139,407	131,141	28,198	53,161	25,[illegible]	9,763	-	-
Less: Accumulated depreciation	434,037	-	32,737	48,989	95,[illegible]	78,750	72,343	69,359	13,734	9,[illegible]6	1[illegible]01	8,6	-	-
Other capital assets less reserves[2]	83,659	-	2,858	5,106	13,[illegible]	15,197	13,371	14,630	3,100	4,709	[illegible],4	8,753	-	-
Accounts and notes payable[3]	1,637,473	-	91,295	136,631	367,[illegible]	289,705	207,847	276,195	88,[illegible]2	45,[illegible]8	44,[illegible]	75,[illegible]9	-	-
Other current liabilities	293,613	-	14,953	26,216	62,[illegible]	64,517	42,733	39,[illegible]7	10,[illegible]6	9,14[illegible]	18,[illegible]7	5,[illegible]2	-	-
Mortgages, notes, and bonds payable in one year or more	359,164	-	15,085	22,981	84,[illegible]	62,167	41,[illegible]9	70,[illegible]8	12,[illegible]2	26,[illegible]6	26,[illegible]1	-	-	-
Net worth	2,044,712	-	59,083	179,441	489,[illegible]	436,[illegible]	346,786	322,652	8[illegible]6	71,[illegible]9	98,[illegible]1	8,157	-	-
Cost of property used for investment credit	46,834	3	2,669	4,350	9,[illegible]	5,[illegible]	1,[illegible]76	5,307	[illegible],188	1,694	1,[illegible]40	1,[illegible]	-	-
Total receipts	9,873,644	22,553	802,844	1,251,779	2,556,[illegible]	1,855,[illegible]	1,166,88[illegible]	1,306,747	331,477	[illegible],248	[illegible],[illegible]7	9[illegible],14	-	-
Business receipts	9,435,062	22,[illegible]	795,565	1,233,517	2,500,[illegible]	1,784,[illegible]16	1,[illegible]04,897	1,215,147	310,565	[illegible],701	219,[illegible]8	78,[illegible]	-	-
Cost of sales and operations	6,302,145	[illegible],135	528,087	8[illegible],916	1,668,[illegible]2	1,[illegible]20,[illegible]9	728,[illegible]7	792,923	198,[illegible]8	146,740	138,[illegible]7	44,[illegible]3	-	-
Taxes paid	158,128	326	14,114	20,730	40,[illegible]	28,665	16,[illegible]2	18,743	5,887	4,[illegible]22	6,[illegible]	[illegible]65	-	-
Interest paid	69,233	(*)	2,853	4,965	13,[illegible]3	10,[illegible]09	9,[illegible]21	13,909	2,[illegible]5	3,[illegible]7	1,465	4,[illegible]	-	-
Depreciation	83,[illegible]92	(*)	7,688	10,613	20,[illegible]	13,193	10,440	9,402	[illegible],[illegible]4	1,[illegible]98	1,[illegible]22	[illegible]8	-	-
Employee benefit plans	29,[illegible]4	32	7[illegible]9	2,714	5,[illegible]	[illegible],[illegible]12	5,[illegible]	5,380	[illegible],807	1,378	1,[illegible]4	3,8	-	-
Net income (less deficit)	210,611	-8,163	-3,[illegible]6	19,439	50,[illegible]3	48,[illegible]2	42,299	25,499	8,066	9,[illegible]9	19,[illegible]6	-7,[illegible]	-	-
Net income	299,193	(*)	17,081	27,362	72,[illegible]5	61,685	45,[illegible]0	35,762	10,[illegible]2	9,[illegible]9	19,[illegible]6	-	-	-
Deficit	88,582	8,633	20,387	7,923	15,[illegible]2	12,[illegible]4	3,[illegible]1	10,[illegible]3	(*)	-	-	7,[illegible]8	-	-
Income tax, total	74,[illegible]7	(*)	1,728	4,[illegible]3	13,[illegible]7	13,[illegible]7	12,[illegible]9	13,606	2,[illegible]58	4,[illegible]55	7,[illegible]	-	-	-
Surcharge	[illegible]28	-	(4)	(4)	[illegible]	[illegible]	1[illegible]	[illegible]53	[illegible]10	[illegible]8	[illegible]3	[illegible]	-	-
Foreign tax credit	(4)	-	-	-	(4)	-	-	-	-	-	(4)	-	-	-
Investment credit	831	(*)	40	[illegible]4	[illegible]	[illegible]3	144	[illegible]55	[illegible]40	[illegible]88	[illegible]69	-	-	-
Distributions to stockholders except in own stock	[illegible],302	(4)	1,[illegible]19	2,[illegible]77	[illegible],[illegible]2	[illegible],[illegible]1	[illegible],[illegible]7	[illegible],[illegible]1	(*)	[illegible],[illegible]5	1,[illegible]15	-	-	-

Financial structures and tax impacts vary by company size within a given industry. . . .

BASE CASE - CORPORATE INCOME STATEMENT INFORMATION

RETAIL TRADE

APPAREL AND ACCESSORY STORES SIC-56

	TOTAL ASSETS	71706.	346702.	1969619.
1.	NET SALES	189072.	770188.	3532104.
2.	COST OF SALES	121707.	474180.	2136306.
3.	SALES,GEN AND ADMIN	53080.	228035.	1085626.
4.	INTEREST	544.	2833.	21318.
5.	DEPRECIATION	1400.	6489.	34092.
6.	TOTAL COSTS	176731.	711537.	3277342.
7.	INCOME BEFORE TAXES	12341.	58651.	254762.
8.	PENNA ALLOCATION PERCENTAGE 100. 95. 70.	12341.	55718.	178333.
9.	PENNA CNI TAX	1357.	6129.	19616.
10.	CAPITAL STOCK TAX	292.	1319.	4223.
11.	TOTAL STATE TAX	1649.	7448.	23840.
12.	FEDERAL TAXABLE INCOME	10691.	51202.	230921.
13.	FEDERAL TAX	2352.	18077.	104342.
14.	TOTAL NEW INVESTMENT	1122.	6932.	27376.
15.	INVESTMENT TAX CREDIT	78.	485.	1916.
16.	FEDERAL TAX AFTER CREDIT	2273.	17591.	102426.
17.	TOTAL TAX OBLIGATION	3923.	25040.	126266.
18.	NET INCOME	8417.	33610.	128495.
19.	RETURN ON EQUITY	0.0444	0.0351	3.4126
20.	RETURN ON SALES	0.0445	0.0436	0.0363
21.	RETURN ON ASSETS	0.1173	0.0969	0.0652

Source: McKinsey calculations based on IRS and State Dept. of Revenue data.

trade companies are listed for the SIC code number 56. The assets of the first company are about $72,000; for the second company, $347,000; and for the third company, $1,970,000 - in increasing order of size on the example. The total assets here represent the total value of the working capital, plant property and equipment that these stores might have.

Construction of the Model Economy

In order to use the data base for tax option calculations, the base case companies had to be weighted so that they would characterize the aggregate structure of Pennsylvania's economy. This was done using tax return data from fiscal year 1969-1970.* In essence then, the model economy used in the analysis was weighted to the 1970 tax year; any other year for which data were available could also be used.

The procedure we used was as follows: For the retail trade example, SIC code 56, the model contained three companies of various sizes that pay state taxes ranging from $1,300 to almost $20,000. From state tax return data, it is apparent that 1,152 firms active in this industry filed state income tax reports in fiscal year 1970. Those 1,152 firms can be allocated to one or another of the three model companies so that the taxes paid by each model company times the number of companies of that size approximate the total taxes received for that industry.

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* - Since the manufacturers exemption in the capital stock tax was in effect in this tax year, the base year chosen roughly reflects the relative burden on different companies subject to Pennsylvania's current taxes.

The allocation derived for this industry included 650 firms in the smallest bracket, 487 firms in the intermediate asset size bracket, and 15 firms in the largest bracket; then, the number of firms in each bracket times the Pennsylvania corporate net income taxes paid by the typical company in that bracket leads to an estimate of $4,161,000 in corporate net income taxes paid to the State by companies in that industry. Actual reported receipts were $4,156,000. The difference between the predicted and the actual values for this industry is less than 0.2 percent.

Base case models for other industries were similarly accurate. Based on weights derived for other SIC codes, predicted taxes paid for each industry were compared to the actual taxes paid per industry. In every case except SIC codes 48 and 49, telecommunications and utilities and sanitary services, the results were within 85 percent of the actual value. The base case approach, therefore, models fairly well the tax receipts from the corporate net income tax.

The industries included in the base case income statements account for 66 percent of the companies filing tax returns, or over 29,000 firms. These 29,000 firms pay almost 75 percent of all corporate net income taxes, or $393 million in taxes to the State. Therefore, in addition to being a good representation of each industry, the wide range of industries selected accounts for most of the firms active in the State and a very large fraction of the State's corporate net income tax revenues. The weights developed for each industry are shown in Exhibit XV.

WEIGHTS FOR COMPANIES BY INDUSTRY AND COMPANY SIZE

SIC CODE	COMPANY SIZE BRACKET			
	1	2	3	4
12	183			
13	3	25	75	
15 - 17	900	2,761	200	
20	500	431	14	
22	300	187	25	
23	1,098	126	10	
26	150	73	61	
27	500	240	39	
28	88	300	154	
29	87	65		
30	101	85	12	
32	210	155	100	
33	100	120	159	33
34	874	114	71	29
35	451	327	196	
36	250	92	165	
37	170	168		
38	140	118	53	
40 - 47	1,000	137	133	
48			300	
49			414	
50	3,000	1,391	180	
52	400	182	129	
53			589	
54	94	250	142	
55	775	420	218	
56	650	487	15	
57	400	296	22	
58	1,500	133	11	
70			366	
72	350	200	57	
73	349	400	643	
75	214	250	122	

Source: McKinsey calculations.

Tax Option Calculations

Our primary use* of the "model economy" in evaluating different corporate tax options consisted of calculating taxes under the option considered, and from the tax calculation, the net income after tax. The net income after tax figures were then compared to net income under the current tax situation. The difference was added for each of 5 years and compounded at the company's rate of return on equity. By applying the debt to equity ratio of each company - based on the Federal return data - a figure representative of the total possible cumulative investment potential due to tax changes was computed. In addition, of course, the actual state tax computed for each company was multiplied by the company's weighting factor and cumulated for all companies to estimate the total yield of each tax option.

The intent of the methodology was to provide a means of testing for different tax options the relative effect on funds available for investment. In performing the tax calculations a number of simplifying assumptions were made. The key assumptions were as follows:

¶ Corporate net income tax was calculated as a flat percentage of Pennsylvania taxable income. No special deduction or credit specifications were included in the calculations - although some exist in the current tax law

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* - As noted in the last section of this chapter, the model developed for this analysis has much wider applicability.

- Since there is no precise means under the state's current tax law of valuing the capital stock of each company in the model, capital stock taxes were computed as a percentage of corporate net income taxes paid for each industry in Pennsylvania which paid both taxes in 1970-1971.
- No second order effects are considered. For example, despite the fact that one purpose of these calculations was to estimate total "investment potential" resulting from tax changes, no estimates were made of the tax or other effects which might result over a 5-year period - if some or all of this investment were actually made.
- No projections were made of the 1967 IRS income statement data.
- Investment tax credits were calculated using actual "cost of tax credit property" - published by the IRS.
- No local taxes were included in the calculations. The wide variations in local taxes would have made their inclusion problematic, at best. Moreover, by excluding these taxes a clearer picture of the effect of state tax changes can be seen.

Because of these assumptions, and the limitations of the data base itself, the aggregate results of the tax calculations cannot be precisely accurate; however, the relative tax burdens should be accurate and the aggregate figures are probably accurate within a reasonable tolerance. Further, if better accuracy were required later the computational algorithms can be refined.

RESULTS OF ANALYSIS OF EIGHT TAX OPTIONS

Using this approach, eight corporate tax reform options were evaluated. At this stage in the tax reform project, the evaluation of these options is only illustrative. For example, we do not know whether any or all of the options considered are really meaningful options for Pennsylvania. Moreover, as noted earlier in the report, we are not in a position to judge which of the wide range of possible economic growth objectives best meets Pennsylvania's near- and long-term needs. However, the evaluation of the eight options demonstrates how the basic approach we took will permit the Tax Reform Committee and legislators to propose and test the impacts of alternative corporate tax reforms.

The results obtained by applying the options are discussed below in four sections:

- Effect on tax yield
- Relative effects across economic sectors
- Relative effects within several key sectors
- Different effects by company size.

Following these three sections is a brief summary of conclusions drawn from the analysis.

Yield of Different Tax Options

The eight tax options we considered are not equal or directly comparable by any means. In particular, these options would result in different State corporate

tax yields and, hence, different total corporate tax burdens in the State. (As noted earlier, one of the major policy choices facing the State involves deciding what an appropriate level of State corporate taxation might be. In the options we considered, several different levels are discussed.)

The bench mark for considering the desirability of different corporate tax yields is clearly the current yield of the two taxes considered.* Table 5 compares the results of the eight options with the actual yield in the fiscal year 1969-1970 of the two taxes considered.

* - As discussed earlier, the model economy we used in this analysis was "normalized" to tax yields as of fiscal year 1969-1970. No projection capability is built into the model and, in fact, projecting the State's economic situation would be a most complex problem.

Table 5

Tax Option	Corporate Net Income	Capital Stock	Total	Percentage Decrease in Yield of Option From Actual Yield of Current State Taxes
Actual yield in FY 1970	$526.0	$118.1	$644.1	-
Option 1: Corporate net income tax rate (CNI) 7%	334.7	118.1	452.8	29.7%
Option 2: CNI 9%	430.3	118.1	548.4	14.9
Option 3: 7% state investment tax credit (ITC)	*	*	514.6	20.1
Option 4: 100% ITC	*	*	21.6	96.7
Option 5: 120% depreciation	497.4	118.1	615.5	4.4
Option 6: 150% depreciation	454.4	118.1	572.5	11.1
Option 7: No capital stock tax	526.0	0.0	526.0	18.3
Option 8: 50% capital stock rate	526.0	59.1	585.1	9.2

* Tax credits computed as a reduction against total State tax liability.

Source: McKinsey calculations.

As the table shows, the options range from a reduction of the corporate tax burden by 96.7 percent overall* to a reduction of 4.4 percent overall. In the comparison of relative sectoral and asset size burdens discussed below, the fundamental difference in the magnitude of the tax options considered must be kept in mind.

* - Such a corporate tax reduction is clearly not feasible. It was included in the analysis, primarily, to determine the range of results which might be derived from expansion of investment tax credits to an unprecedented level.

Relative Effects
Across Sectors

By comparing the net income after taxes for each option and each company, it is possible to compute the relative tax savings accruing under each option - or by aggregating the results, the total distribution of tax savings under each option. (Note that a simple comparison of relative State tax burdens would not suffice since a decrease in State taxes would be offset to a greater or lesser extent by an increase in Federal tax liability.) Exhibit XVI, following, shows the distribution of tax savings by sector under options 1, 3, 5, and 7 compared to the distribution of the tax burden under the current State tax system. (Options 2, 4, 6, and 8 would display approximately the same patterns of relative tax savings.) In general, as the exhibit shows, tax savings are distributed roughly in proportion to the current tax burden. However, the distribution of savings under each option is not identical - reflecting the differential impact of the different options.

To show these differing effects more directly, Exhibit XVII, following, compares the relative tax savings by sector within each option to the average overall tax savings. As the exhibit shows:

¶ Option 1 - a reduction in the corporate net income tax rate - is most nearly neutral with respect to relative tax savings. Overall, the option reduces State corporate taxes by 19.9 percent; by sector, the average percent saved varies from 18.4 percent to 21.8 percent. In other words, the savings from the reduced tax rate are evenly distributed within about a 10 percent range of variation.

Exhibit XVI

Tax options have different impacts on the State's economy . . . .

DISTRIBUTION OF TAX SAVINGS BY SECTOR COMPARED TO DISTRIBUTION OF CURRENT STATE TAX BURDEN

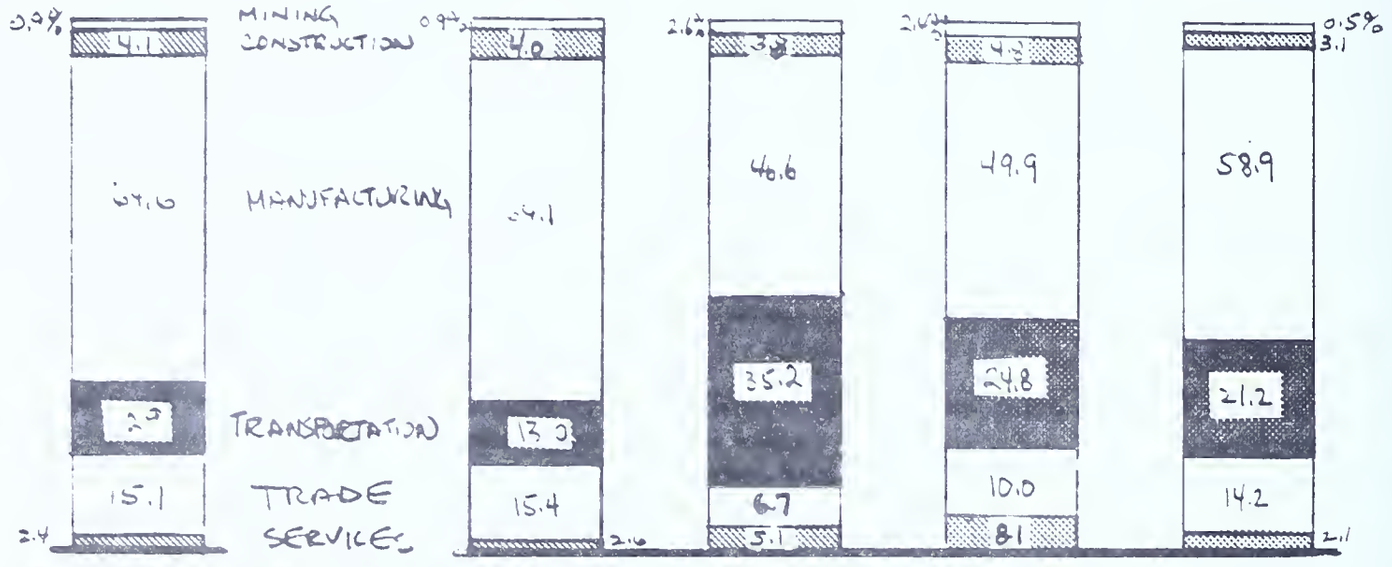
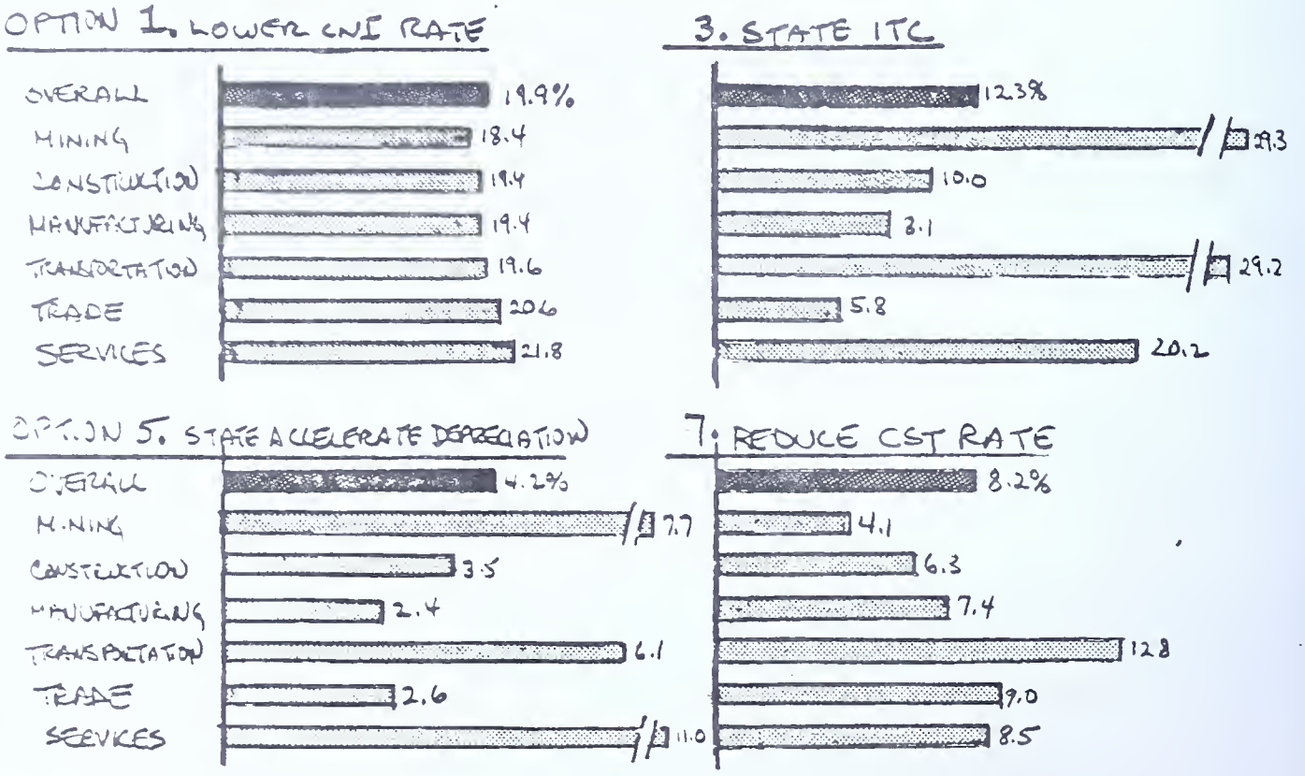


Exhibit XVII

Of the four basic options, reduction in CNI has the most uniform impact . . . .

RELATIVE TAX SAVINGS - BY SECTOR
SAVINGS AS A % OF CURRENT STATE TAX LIABILITY



Source: McKinsey calculations from model corporations data base.

¶ Option 3 - the allowance of a 7 percent State investment tax credit - is the most highly discriminatory option by sector. Overall, the option reduces the state-imposed tax burden on corporations by 12.3 percent; by sector, the relative savings range from a low of 5.8 percent of current taxes for the wholesale and retail trade sectors to a high of 29.3 percent of current taxes for mining. The three sectors which benefit most from this option are mining, transportation and services. (Note that the service industries included in our data base included relatively highly capital intensive services such as auto repairs.)

¶ Option 5 - accelerated depreciation for State tax purposes - also benefits the mining, transportation and service sectors (for the reasons cited above). The total variation in relative savings is less, however, ranging from a low of 2.4 percent of current taxes for the manufacturing sector to a high of 11.0 percent for the service sector. Overall, option 5 would have reduced State corporate taxes by 4.2 percent.

¶ Option 7 - a reduction of the capital stock tax rate by 50 percent - favors the transportation, trade and service sectors and, to a more limited extent, manufacturing. The reduced rate would lower corporate taxes 8.2 percent overall; by sector the reduction ranges from a low of 4.1 percent for mining to a high of 12.8 percent for transportation.

These intersectoral comparisons of tax savings are useful in focussing attention on options designed to favor specific sectors. However, they obscure some of the more dramatic intrasectoral variations. These intrasectoral differences are discussed later under the heading - relative effects within a sector.

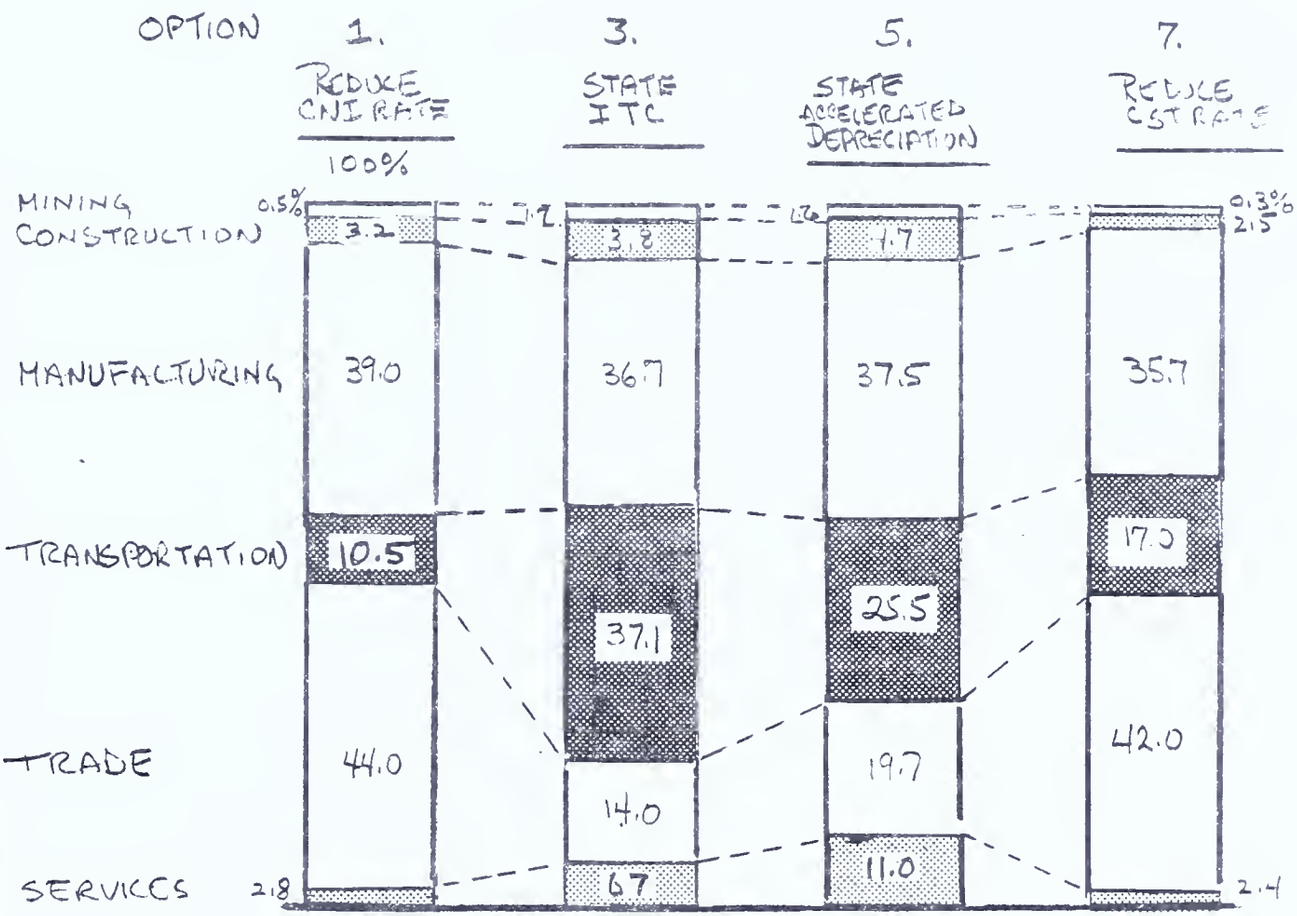
Relative tax savings is one measure of the potential investment stimulating capacity of different tax options; a more direct measurement can be made by comparing "total cumulative potential new investment due to tax changes." This potential new investment is measured by computing net new retained earnings as a result of tax changes over a 5-year period (allowing for an increase in earnings due to prior new investments) and adding debt in proportion to the debt equity ratio characteristic of the industry. Exhibit XVIII shows such a comparison across sectors for options 1, 3, 5 and 7.

The exhibit demonstrates that the possible investment effect of the different tax options varies widely. For example, it shows that an investment tax credit option would encourage significant new investment in the transportation sector. Similarly, it shows that a reduction in the capital stock tax rate would encourage new investment in wholesale and retail trade facilities.

These results must be interpreted with extreme caution. In general, changes in the state corporate tax structure would affect the economics of investment decisions differently. However, especially in certain sectors, the actual effect would be far from conclusive. For example, a reduced capital stock tax rate might make planned investment in new retail facilities more attractive

Total cumulative potential new investment due to tax changes varies by sector of the economy. . . .

RELATIVE DISTRIBUTION OF
TOTAL CUMULATIVE POTENTIAL NEW INVESTMENT



Source: McKinsey calculations from model corporations data base.

from a financial point of view. However, it is unlikely that a tax change would stimulate new investment in this sector if it had not already been planned. In other words, tax changes might accelerate investments of this type being contemplated - but would be unlikely to create new investment. (The tax change would instead increase the profitability of the sector benefiting.)

Similar reservations would have to be expressed about the transportation construction and mining sectors - and to a more limited extent the service sector. Within manufacturing, however, a more direct investment effect might be expected - because of the size of typical investments and the generally high level of attention devoted to making these investments. (The relative effects of of different tax options within the manufacturing sector are discussed in the next section of the report.)

With these caveats in mind, some conclusions about the likely investment effects of the different options can be drawn. For example, for manufacturing, a reduction in the corporate net income tax rate (Option 1) has the greatest relative effect on potential manufacturing investment. In declining order of relative effect, Option 1 would be followed by Option 3 (accelerated depreciation), Option 2 (investment tax credit) and Option 4 (reduced capital stock tax rate). One might conclude from these results that a reduction in corporate net income tax rates would be the most attractive State corporate tax reform option - if the purpose of the reform were to stimulate new manufacturing investment. However, the fact that the total variation in effect is small suggests that a more targetted investment tax credit approach might have more potential for near-term success.

The results for the service sector are quite dramatically different: Tax reduction in the form of investment tax credits or accelerated depreciation are relatively more effective in terms of investment potential than reductions in either the CNI or CS tax rates. This result, on the surface, seems surprising. It can only be explained by a careful review of the relative effects of each option at the 2-digit SIC code level - which is discussed below.

Relative Effects
Within a Sector

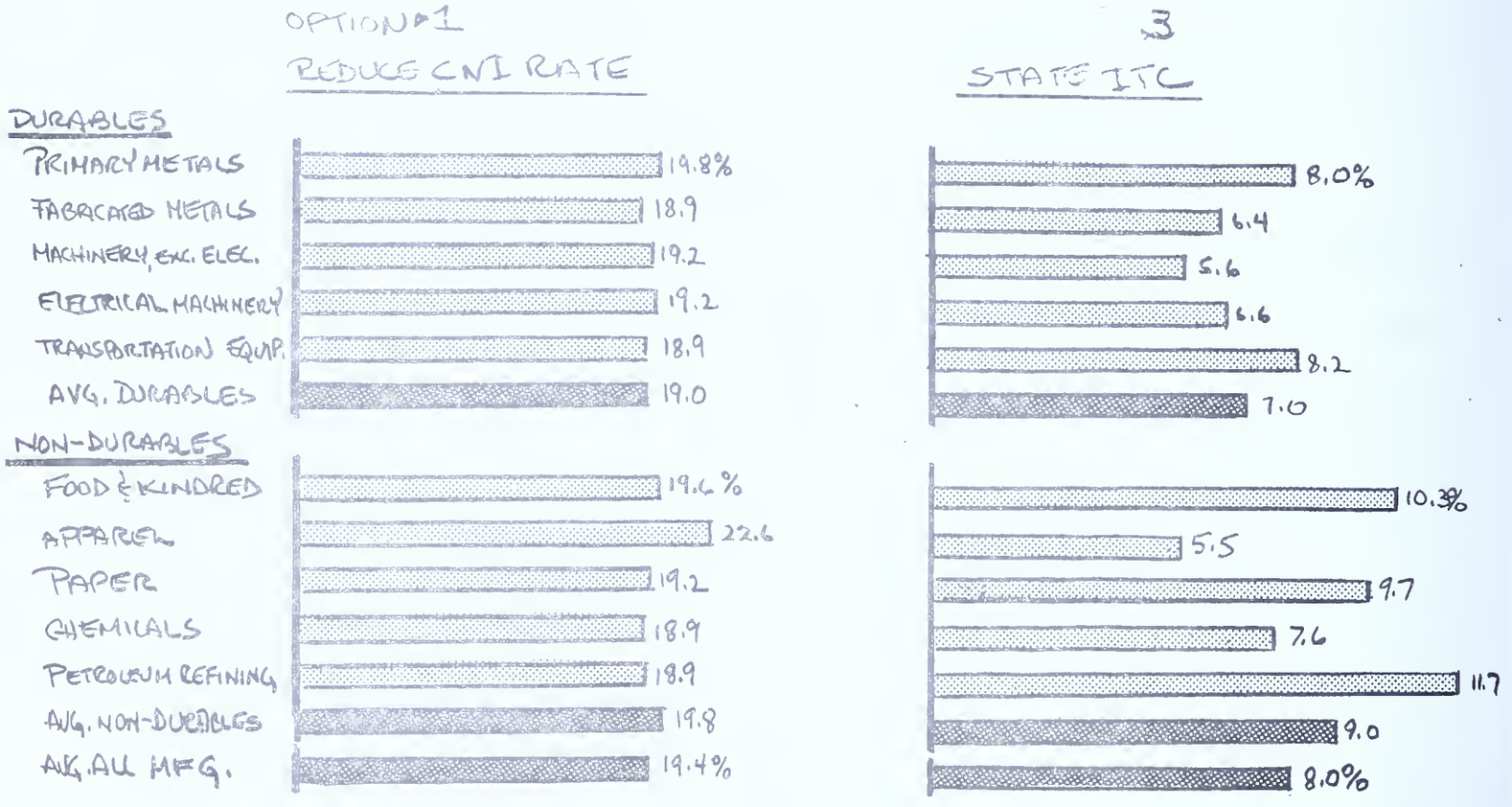
The methodology we used to evaluate the relative effects of different tax options shows dramatic variations within a particular sector. For example, Exhibit XIX, following, shows for Options 1, 3, 5 and 7 relative tax savings as a percentage of current tax liability for the 10 largest manufacturing industries in Pennsylvania. As the exhibit shows:

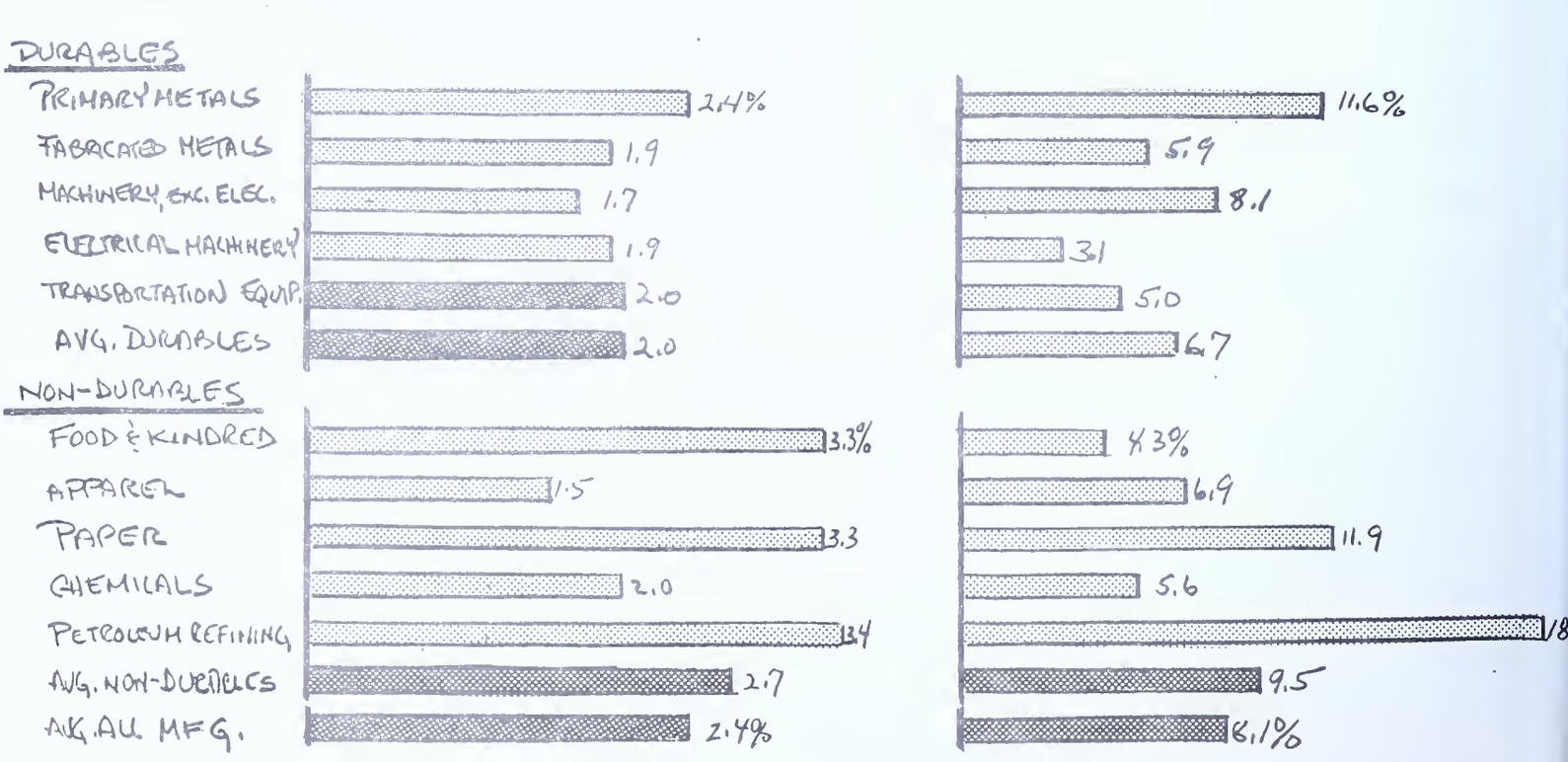
- ¶ Option 1 - a reduction in the CNI rate:
  - Favors nondurable goods manufacturing over durable goods
  - Within nondurables, favors the apparel and food industries
  - Within durables, favors primary metals and the machinery industries
- ¶ Option 3 - institution of a State investment tax credit:
  - Results in much wider interindustry variations, in general, than Option 1

Tax impacts within a sector have varying impacts depending on the industry . . .

. . Lower CNI rates are closest to being uniform . . . .

RELATIVE TAX SAVINGS
10 MOST IMPORTANT INDUSTRIES





Source: McKinsey calculations from model corporations data base.

- Favors, even more significantly, nondurables
- Within nondurables, favors petroleum refining, food and paper and allied industries
- Within durables, favors the primary metals and transportation equipment industries.

¶ Option 5 - accelerated depreciation for State tax purposes:

- Favors nondurables over durables
- As with Option 3, within nondurables, favors petroleum refining, food and paper industries
- Within durables, favors primary metals.

¶ Option 7 - reduction in the capital stock tax rate*:

- Favors nondurables over durables
- Within nondurables, heavily favors paper and refining industries
- Within durables, heavily favors the primary metals industry.

In general, these results may be somewhat skewed by the macroeconomic situation during the base year (1967) from which the data base were constructed. However, the analysis clearly shows that different tax options have varying effects on different industries and therefore in formulating tax policy designed to achieve economic growth objectives, these relative effects must be carefully assessed.

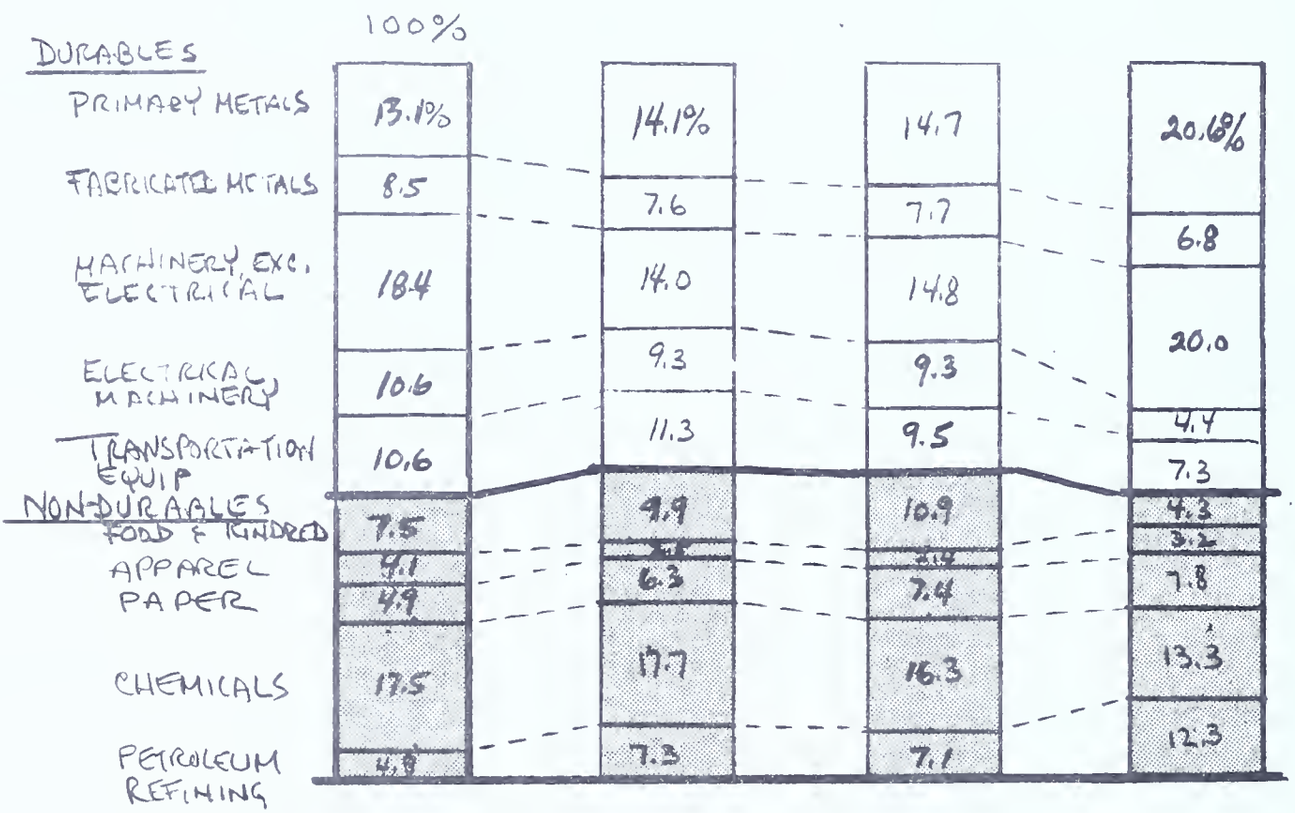
* - If a more precise method of valuation for capital stock tax purposes were developed as one reform of the State's tax structure, the effects of changes on the capital stock tax rate could be assessed with more certainty. Until such time, the results of our calculations for options 7 and 8 should be viewed as tentative and subject to later confirmation.

Exhibit XX

Total cumulative new investment due to tax changes is targeted to primary metals, machinery and refining by reducing capital stock tax . . . .

RELATIVE DISTRIBUTION OF TOTAL CUMULATIVE POTENTIAL NEW INVESTMENT DUE TO TAX CHANGES

10 MOST IMPORTANT INDUSTRIES



Source: McKinsey calculations from model corporations data base.

To give a somewhat different perspective of the differential effects of different tax options, Exhibit XX shows the distribution over Pennsylvania's 10 leading manufacturing industries of total cumulative potential new investment due to tax changes for Options 1, 3, 5 and 7. Because of the importance of durable industries in the State's economy, each of the options creates a greater "investment potential" in the durable sector than in the nondurable sector. Reduction in the corporate net income or capital stock tax rates appear to be the most effective in terms of encouraging investment in the durable sector rather than in nondurables. However, at an industry level, the different effects of each option vary dramatically.

For example, a reduction in the capital stock tax rate is apparently the most effective way of encouraging investment in the primary metals industry. With this option, over 20 percent of the new investment possibly resulting from the tax reduction would be in the primary metals industry - compared to 13 percent with a reduction in the corporate net income tax rate. This conclusion is probably the result of the fact that the capital stock tax represents a fixed and fairly high tax burden on Pennsylvania's steel producers - which for competitive reasons, discussed earlier in this report, have not been experiencing high profitability in recent years. As a second and counter example, a reduction in the corporate net income tax rate is, by far, the most effective means of inducing new investment in the apparel industry; whereas the provision of accelerated depreciation for State tax purposes appears to encourage the food industry in the State.

Within the service sector, even more dramatic results are apparent. Table 6 shows the relative tax savings under each option for the four service industries we included in our model.

Table 6

Tax Savings as a Percent of

Current State Tax Liability

Industry	Option 1: Reduce CNI Rate to 7%	Option 3: State ITC of 7%	Option 5: State Accelerated Depreciation at 120% of Federal	Option 7: Eliminate CST Rate
Hotels, etc.	18.9%	8.8%	7.3%	7.7%
Personal services	23.7	18.5	6.7	10.2
Business services	21.0	30.8	10.1	5.7
Auto repair, garages	23.6	22.6	19.9	10.4
Average	21.8%	20.2%	11.0%	8.5%

Source: McKinsey calculations.

As shown in the table, a State system of investment tax credits could benefit the new and rapidly growing business services industry; by contrast, accelerated depreciation would benefit the existing and relatively capital intensive auto repair industry. Looking only at the potential for new investment, Table 7 compares the distribution of potential new investment in the service sector due to tax changes (calculated by accumulating new net income after taxes as a result of tax changes and applying the industry's characteristic debt equity ratio).

Table 7

Distribution of Total Cumulative Potential New Investment

Due to Tax Change

Industry	Option 1: Reduce CNI Rate	Option 3: State ITC	Option 5: State Accelerated Depreciation	Option 7: Reduce CST Rate
Hotels, etc.	34.1%	15.6%	27.2%	39.4%
Personal services	10.1	7.8	6.0	12.2
Business services	44.0	65.2	44.8	33.7
Auto repair, garages	11.8	11.4	22.0	14.7
Total	100.0%	100.0%	100.0%	100.0%

Source: McKinsey calculations.

The data in this table confirms the tentative conclusions drawn from Table 6 by comparing relative tax savings: With a State investment tax credit, potential new investment resulting from the tax change would be heavily concentrated in the business service industry. By contrast, a reduction in either the corporate net income or capital stock tax rate would favor the hotel (and possibly tourist) industry in the State.

In summary, the effects of different tax options vary widely across industries and within industries. While the detailed results discussed above are, at best, subject to confirmation by an expansion and refinement of our data base and clarifications on certain tax definitions, the approach we used for these analyses is effective in illustrating these widely varying results. If encouraging economic growth is to be an objective of corporate tax reform and if growth objectives

vary among industries, then the approach discussed in this chapter can be used to measure the probable effectiveness of different tax options in achieving their stated objectives.

Different Effects
By Company Size

Different tax options also have different effects depending on the size of the taxpaying company. These differences may also be important in formulating tax policy. For example, if the objectives of tax reform were to encourage the development of a new industry or sector, tax reduction options which optimized savings for small companies might be desirable. Alternatively if the objective of reform was to assist a mature industry regain its national competitive position, options which favored large companies might be desirable.

To assess the relative advantages, in this respect, of the 8 tax options we considered in this report, we calculated the relative tax savings under each option as a percent of current tax liability for three ranges of asset size which represent a convenient summary of companies used in our model economy. The results of these calculations for Options 1, 3, 5 and 7 are shown in Table 8.

Table 8

Tax Savings as a Percentage of

Current State Tax Liability

Tax Option	Asset Size: Under $500,000	$500,000-10,000,000	$10,000,000 And Over
Option 1: Reduce CNI rate	21.6%	18.9%	18.9%
Option 3: State ITC	8.5	8.7	12.5
Option 5: State accelerated depreciation	3.3	2.9	2.9
Option 7: Reduce CST rate	8.4	6.8	8.7

Source: McKinsey calculations.

As the table shows, Option 1, a reduction in the corporate net income tax rate, favors small companies over larger companies - although the total difference is relatively small. By contrast, Option 3, the institution of a State investment tax credit seems to favor large companies over small companies - perhaps only a reflection of the fact that large companies file, in the Federal tax returns, for investment tax credits while smaller companies may overlook such tax-saving opportunities. The results of the calculations for Option 5 - State accelerated depreciation - and Option 7 - a reduction in the capital stock tax rate - were mixed and are probably inconclusive.

In general, the approach used to evaluate the differential effects of tax reform options does show a variation by company size. However, the options considered were not particularly focused on size considerations. If favorable tax treatment of small companies were to become a major tax reform objective, tax options could be designed specifically to achieve this goal. For example, tax forgiveness or deferred provisions modeled on Puerto Rico's Operation Bootstrap could be designed to favor companies of a particular asset size.

* * *

To assess these differential effects of various corporate tax reform options, we developed a model of Pennsylvania's economy and measured the effects of different tax options on sectors, industries and by company size. The analytic techniques used in applying these measurements to various possible tax reforms are one of the major "end products" of our preliminary evaluation of corporate tax reform options.

In evaluating the results of these analyses, care must be taken to avoid overstating the implication of the indicated investment potential of different tax options. Moreover, the results discussed above suffer somewhat from the current limitations of the model - the single year base from which the data were drawn. It was not feasible to use the model in making projections until the Tax Reform Committee has solidified on a number of general policy guidelines and objectives.

To use this approach in formulating a corporate tax reform program for Pennsylvania, the first step must comprise the articulation of specific economic growth objectives to be sought by corporate tax reform in the Commonwealth. Once these objectives have been defined, tax options can be designed and evaluated in a way that measures the effectiveness of the options in meeting their stated objectives. Further work on testing corporate tax reform options must await the specification of appropriate economic growth objectives.

FURTHER USES OF THE METHODOLOGY

The "model economy" and techniques for manipulating it developed as part of this analysis could have further uses - both for tax analysis and for the analysis of broader economic development issues. In this section, we briefly review some of these possible uses as well as note some limitations in the current data base and analytic techniques that might be eliminated to facilitate future use. Our purpose in presenting this material is to encourage analysts in the State to take advantage of the work done to date in developing these data and techniques.

Further Tax Reform Uses

In the tax area, the eight tax options discussed in this report do not by any means exhaust the number or type of tax reform options which might be considered in Pennsylvania. For example, none of the options deal with selective exemptions or credits designed to - either support desirable corporate activities

Exhibit XXI

LOWER CORPORATE NET INCOME TAX TO SECURE STABLE EMPLOYMENT IN RECESSIONARY PERIODS

Manufacturing - fabricated metal products - SIC 34

Income before taxes		$13,168,616	
State taxable amount after allocation		$ 1,316,861	
Corporate net income tax rate		11%	10%
Corporate net income tax		$ 144,854	$ 131,686
Capital stock tax		18,454	18,454
Total state tax		$ 163,308	$ 150,140
Federal taxable income		$13,005,306	$13,018,474
Federal tax		$ 6,236,047	$ 6,242,367
Investment tax credit		203,594	203,594
Total Federal tax		$ 6,032,452	$ 6,038,773
Total tax obligation		$ 6,195,761	$ 6,188,913
Net income		$ 6,972,854	$ 6,979,703
Savings at 10% rate		$6,849	

At this allocation level: 1% CNI drop provides $6,849 cash flow

---

Notes: Corporate net income tax calculations do not reflect the add-back provisi of Act number 2, March 4, 1971, as a result tax liabilities computed are slightly less than the actual taxes owed by the company shown in the illustration.

In accordance with SIC 344 wage rates in Pennsylvania for 1970:

$3.62 = Average hourly earnings
39.4 = Average weekly hours worked
$142.63 = Average weekly pay per worker

$6,849 savings ÷ $142.63 weekly wage per worker = 48.019 additional average workweeks.

Assuming 52-week paid workyear, 1% CNI drop would pay 92% of the wage bill fc one production worker in a year.

Source: McKinsey calculations.

(investment in ghetto areas) or encourage certain sectors of Pennsylvania's economy. Similarly, none of the options we considered deal with economic stabilization options - although such options could be considered in Pennsylvania. However, the methodology used in this report would be equally applicable to these other kinds of options.

As one example, the relationship between the lowering of tax rates and stabilization of employment may be analyzed as seen in Exhibit XXI. In the example, we assumed that the corporate net income tax rates were reduced by 1 percent to stimulate employment - presumably at a time of relative high unemployment. (For example, such a reduction could be automatically "triggered" any time the State unemployment rate rose above a certain prescribed level.) Using one of the small sample companies in the data base, it can be seen that the rate of reduction would result in an increase of the company's net income of about $7,000 - roughly enough to pay the salary of one average worker. (The effects on other sizes or types of companies would depend on the actual financial characteristics - profitability, etc. - of the companies considered). With such a tax option, companies could be allowed to pay the lower tax if they were willing to retain employment at some artificially high level prescribed by State legislation. Using the full model economy, the total number of jobs likely to be affected could be estimated.

The example is illustrative also of some of the limitations in the data base as currently constituted. The model could be augmented with data on the

employment characteristics of the sample companies. In addition, trend data could be added to the model both to facilitate projections of tax yield (and State economic activity) and to make the evaluation of stabilization tax options more precise. Other limitations which might be eliminated to facilitate the evaluation of tax options include provision of more detailed information on:

- The capital structure of the sample companies
- The operating characteristics of each industry - e.g., wage rates, degree of unionization, overall competitive position.

Collecting these data involves working with a large number of different data sources, but the data, for the most part, are available and could be added to the model.

Nontax Uses

The usefulness of the data base and model is not limited solely to tax analysis. Earlier in this report, we noted that taxation is only one instrument for influencing the State's economic condition. Other instruments include loans or grants, technical assistance, infrastructure improvement, provision of transportation facilities, land assembly assistance, etc. Most of these types of instruments could also be evaluated using variants of the methodology described in this chapter. In short, the existing data base and methodology are first steps toward the development of a flexible tool for continuing economic development analysis.

For application to a broader range of economic development problems, two significant limitations in the current methodology should be overcome. The first was discussed above - the lack of trend data as part of the data base should be remedied so that future economic conditions could be simulated. The second involves the lack of detailed information in the current system for evaluating the interactions among key industries in Pennsylvania's economy. Developments of the existing data base may be able to couple it to the input/output characteristics of Pennsylvania's economy, as a basic aid in planning and stimulating the Commonwealth's economic development.

DETAILED DESCRIPTION OF COMPANIES USED IN INTERSTATE TAX BURDEN COMPARISON

This appendix contains a detailed description of the financial and operating characteristics of the five hypothetical corporations used in the comparison of interstate tax burdens discussed in Chapter 3. For each of the companies, the following material is presented:

- Balance Sheet
- Statement of Operations
- Schedule A - Cost of Goods Sold
- Miscellaneous Employment Information

TYPE A CORPORATION

- Low inventory
- Low fixed capital investment
- High labor content
- Low profit
- 150 employees

BALANCE SHEET

December 31, 1972

ASSETS

Cash	$ 50,000
Notes and Accounts Receivable - No Interest	200,000
Less Allowance for Doubtful Accounts	(5,000)
Inventory and Factory Supplies	200,000
Prepaid and Deferred Expenses	18,000
Total Current Assets	$463,000
Other Assets	$ 15,000
Land	$ 30,000
Buildings	225,000
Machinery and Equipment	150,000
Furniture and Fixtures	10,000
Allowances for Depreciation	(108,125)
Net Fixed Assets	$306,875
Total Assets	$784,875

LIABILITIES AND STOCKHOLDERS' EQUITY

Notes Payable	$100,000
Trade Accounts Payable	150,000
Accrued Expenses	85,000
Accrued Taxes	15,000
Total Current Liabilities	$350,000
Long-Term Debt	$ 75,000
Common Stock - 100,000 Shares of $1.00 par	$100,000
Paid-in Surplus	50,000
Retained Earnings	209,875
Total Stockholders' Equity	$359,875
Total Liabilities and Equity	$784,875

STATEMENT OF OPERATIONS

YEAR ENDED December 31, 1972

INCOME	
Gross Sales	$2,450,000
Less Returns and Allowances	(50,000)
Net Sales	$2,400,000
Cost of Goods Sold - Schedule A	1,950,000
Gross Profit	$ 450,000
DEDUCTIONS	
Selling, General and Administrative	$ 280,000
Interest	12,500
Depreciation	21,625
Total Deductions	$ 314,125
Net Income Before Taxes	$ 135,875

SCHEDULE A - COST OF GOODS SOLD

Inventory at Beginning of Year (Assumption)	$ 200,000
Merchandise Bought for Manufacture or Sale	810,000
Salaries and Wages	890,000
Manufacturing Expenses	250,000
Less End-of-Year Inventory	200,000
Cost of Goods Sold	$1,950,000

EMPLOYMENT INFORMATION

In states taxing the first $4,200, unemployment taxes should be based upon a taxable payroll of $638,400.

Employers' tax liability for F.I.C.A. should be based on taxable payroll of $1,036,000.

TYPE B CORPORATION

- Low inventory
- High fixed capital investment
- Medium labor content
- Medium profit
- 220 employees

BALANCE SHEET

December 31, 1972

ASSETS

Cash	$ 175,000
Notes and Accounts Receivable - No Interest	425,000
Less Allowance for Doubtful Accounts	(15,000)
Inventory and Factory Supplies	200,000
Prepaid and Deferred Expenses	50,000
Total Current Assets	$ 835,000
Other Assets	$ 18,000
Land	$ 65,000
Buildings	500,000
Machinery and Equipment	1,500,000
Furniture and Fixtures	100,000
Allowances for Depreciation	(862,500)
Net Fixed Assets	$1,302,500
Total Assets	$2,155,500

LIABILITIES AND STOCKHOLDERS' EQUITY

Notes Payable	$ -0-
Trade Accounts Payable	350,000
Accrued Expenses	125,000
Accrued Taxes	100,000
Total Current Liabilities	$ 575,000
Long-Term Debt	$ 800,000
Common Stock - 100,000 Shares of $1.00 par	$ 100,000
Paid-in Surplus	50,000
Retained Earnings	630,500
Total Stockholders' Equity	$ 780,500
Total Liabilities and Equity	$2,155,500

APPENDIX B
APPENDIX C
APPENDIX D

STATEMENT OF OPERATIONS

YEAR ENDED December 31, 1972

INCOME	
Gross Sales	$5,500,000
Less Returns and Allowances	(110,000)
Net Sales	$5,390,000
Cost of Goods Sold - Schedule A	$3,990,000
Gross Profit	$1,400,000
DEDUCTIONS	
Selling, General and Administrative	$ 475,000
Interest	55,000
Depreciation	172,500
Total Deductions	$ 702,500
Net Income Before Taxes	$ 697,500

SCHEDULE A - COST OF GOODS SOLD

Inventory at Beginning of Year (Assumption)	$ 200,000
Merchandise Bought for Manufacture or Sale	1,650,000
Salaries and Wages	1,300,000
Manufacturing Expenses	1,040,000
Less End-of-Year Inventory	$ 200,000
Cost of Goods Sold	$3,990,000

EMPLOYMENT INFORMATION

In states taxing the first $4,200, unemployment taxes should be based upon a taxable payroll of $890,400.

Employers' tax liability for F.I.C.A. should be based on taxable payroll of $1,433,000.

TYPE C CORPORATION

- High inventory
- Low fixed capital investment
- High labor content
- Medium profit
- 150 employees

BALANCE SHEET

December 31, 1972

ASSETS

Cash	$ 115,000
Notes and Accounts Receivable - No Interest	450,000
Less Allowance for Doubtful Accounts	(10,000)
Inventory and Factory Supplies	600,000
Prepaid and Deferred Expenses	8,000
Total Current Assets	$1,163,000
Other Assets	$ 80,000
Land	$ 60,000
Buildings	300,000
Machinery and Equipment	350,000
Furniture and Fixtures	25,000
Allowances for Depreciation	(225,000)
Net Fixed Assets	$ 510,000
Total Assets	$1,753,000

LIABILITIES AND STOCKHOLDERS' EQUITY

Notes Payable	$ 85,000
Trade Accounts Payable	300,000
Accrued Expenses	225,000
Accrued Taxes	25,000
Total Current Liabilities	$ 635,000
Long-Term Debt	$ 315,000
Common Stock - 100,000 Shares of $1.00 par	$ 100,000
Paid-in Surplus	50,000
Retained Earnings	653,000
Total Stockholders' Equity	$ 803,000
Total Liabilities and Equity	$1,753,000

STATEMENT OF OPERATIONS

YEAR ENDED December 31, 1972

INCOME	
Gross Sales	$3,500,000
Less Returns and Allowances	(75,000)
Net Sales	$3,425,000
Cost of Goods Sold - Schedule A	2,605,000
Gross Profit	$ 820,000
DEDUCTIONS	
Selling, General and Administrative	$ 410,000
Interest	30,000
Depreciation	45,000
Total Deductions	$ 485,000
Net Income Before Taxes	$ 335,000

SCHEDULE A - COST OF GOODS SOLD

Inventory at Beginning of Year (Assumption)	$ 600,000
Merchandise Bought for Manufacture or Sale	1,100,000
Salaries and Wages	900,000
Manufacturing Expenses	605,000
Less End-of-Year Inventory	$ 600,000
Cost of Goods Sold	$2,605,000

EMPLOYMENT INFORMATION

In states taxing the first $4,200, unemployment taxes should be based upon a taxable payroll of $630,000.

Employers' tax liability for F.I.C.A. should be based on taxable payroll of $1,035,000.

TYPE D CORPORATION

- High inventory
- High fixed capital investment
- Medium labor content
- Medium profit
- 100 employees

BALANCE SHEET

December 31, 1972

ASSETS

Cash	$ 175,000
Notes and Accounts Receivable - No Interest	525,000
Less Allowance for Doubtful Accounts	(12,000)
Inventory and Factory Supplies	850,000
Prepaid and Deferred Expenses	40,000
Total Current Assets	$1,578,000
Other Assets	$ 200,000
Land	$ 50,000
Buildings	300,000
Machinery and Equipment	1,010,000
Furniture and Fixtures	65,000
Allowances for Depreciation	(575,000)
Net Fixed Assets	$ 850,000
Total Assets	$2,628,000

LIABILITIES AND STOCKHOLDERS' EQUITY

Notes Payable	$ 85,000
Trade Accounts Payable	300,000
Accrued Expenses	180,000
Accrued Taxes	115,000
Total Current Liabilities	$ 680,000
Long-Term Debt	$ 440,000
Common Stock - 100,000 Shares of $1.00 par	$ 100,000
Paid-in Surplus	50,000
Retained Earnings	1,358,000
Total Stockholders' Equity	$1,508,000
Total Liabilities and Equity	$2,628,000

STATEMENT OF OPERATIONS

YEAR ENDED December 31, 1972

INCOME	
Gross Sales	$3,750,000
Less Returns and Allowances	(75,000)
Net Sales	$3,675,000
Cost of Goods Sold - Schedule A	2,795,000
Gross Profit	$ 880,000
DEDUCTIONS	
Selling, General and Administrative	$ 340,000
Interest	40,000
Depreciation	115,000
Total Deductions	$ 495,000
Net Income Before Taxes	$ 385,000

SCHEDULE A - COST OF GOODS SOLD

Inventory at Beginning of Year (Assumption)	$ 850,000
Merchandise Bought for Manufacture or Sale	1,900,000
Salaries and Wages	525,000
Manufacturing Expenses	370,000
Less End-of-Year Inventory	$ 850,000
Cost of Goods Sold	$2,795,000

EMPLOYMENT INFORMATION

In states taxing the first $4,200, unemployment taxes should be based upon a taxable payroll of $394,800.

Employers' tax liability for F.I.C.A. should be based on taxable payroll of $645,000.

TYPE E CORPORATION

- High inventory
- High fixed capital investment
- Medium labor content
- High profit
- 100 employees

BALANCE SHEET

December 31, 1972

ASSETS

Cash	$ 175,000
Notes and Accounts Receivable - No Interest	525,000
Less Allowance for Doubtful Accounts	(12,000)
Inventory and Factory Supplies	850,000
Prepaid and Deferred Expenses	40,000
Total Current Assets	$1,578,000
Other Assets	$ 200,000
Land	$ 50,000
Buildings	300,000
Machinery and Equipment	1,010,000
Furniture and Fixtures	65,000
Allowances for Depreciation	(575,000)
Net Fixed Assets	$ 850,000
Total Assets	$2,628,000

LIABILITIES AND STOCKHOLDERS' EQUITY

Notes Payable	$ 85,000
Trade Accounts Payable	300,000
Accrued Expenses	180,000
Accrued Taxes	115,000
Total Current Liabilities	$ 680,000
Long-Term Debt	$ 440,000
Common Stock - 100,000 Shares of $1.00 par	$ 100,000
Paid-in Surplus	50,000
Retained Earnings	1,358,000
Total Stockholders' Equity	$1,508,000
Total Liabilities and Equity	$2,628,000

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STATEMENT OF OPERATIONS

YEAR ENDED December 31, 1972

INCOME	
Gross Sales	$3,750,000
Less Returns and Allowances	(75,000)
Net Sales	$3,675,000
Cost of Goods Sold - Schedule A	2,470,000
Gross Profit	$1,205,000
DEDUCTIONS	
Selling, General and Administrative	$ 340,000
Interest	40,000
Depreciation	115,000
Total Deductions	$ 495,000
Net Income Before Taxes	$ 710,000

SCHEDULE A - COST OF GOODS SOLD

Inventory at Beginning of Year (Assumption)	$ 850.000
Merchandise Bought for Manufacture or Sale	1,575,000
Salaries and Wages	525,000
Manufacturing Expenses	370,000
Less End-of-Year Inventory	$ 850,000
Cost of Goods Sold	$2,470,000

EMPLOYMENT INFORMATION

In states taxing the first $4,200, unemployment taxes should be based upon a taxable payroll of $394,800.

Employers' tax liability for F.I.C.A. should be based on taxable payroll of $645,000.

ASSUMPTIONS USED IN RELATIVE TAX BURDEN CALCULATIONS

This appendix contains a detailed list of all the assumptions used in calculating relative tax burdens in different locations - as described in Chapter 3 of the report. The assumptions are organized into five sections, as follows:

- General
- Production and sales
- Inventories
- Fixed assets
- Equity

GENERAL

1. Each corporation is an independent corporation organized to do business solely in the state in which located with no subsidiary relationships.
2. Each corporation has been in existence for five years on December 31, 1972.
3. All assets and employees of each corporation are at a single plant location.
4. Each corporation maintains its records on the accrual method and on a calendar year basis.

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5. Each corporation is engaged in manufacturing with assembly and sales operations which do not subject the corporations to special governmental regulations.
6. Each corporation has a consistent record of profits for each year of operation.
7. Employment has grown with firm sales growth with no employees laid off at any time over the five year period since incorporation thus allowing unemployment tax contributions to be computed at the minimum rate in effect for a given tax jurisdiction.

PRODUCTION AND SALES

1. Products are sold to other manufacturers and distributors solely within the boundaries of the city of corporation's location.
2. Corporations do not make sales to the U.S. Government.
3. All production is shipped from the plant site by common carrier.
4. All parts and supply items are purchased from sources within the state in which the corporation is located, and all state and local sales taxes have been paid.
5. All federal, state, and local licenses for which the corporation is liable have been accrued and paid and are reflected in manufacturin and in general and administrative expenses for each corporation.

6. In regard to services purchased by corporations, all federal, state and local taxes have been paid and are similarly reflected in manufacturing expenses and in general and administrative expenses.

INVENTORIES

1. All production inventory items are purchased from sources within the state in which the corporation is located.
2. Manufacturing operations of each corporation constitute industrial processing within the scope of the sales and use tax acts of the state of incorporation. *
3. The amounts stated for purchases of production inventory materials represent cost but do not include any amounts for state and local sales tax. Where such taxes are applicable to purchases of materials for use in industrial processing operations, they should normally be

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* - For Delaware the manufacturers' tax is calculable as a type of use tax but "use taxes" on tangible personal property are difficult to assess for Ohio and West Virginia where they apply to a percentage of purchase price of production inventory. The total tax burden could therefore be somewhat higher for these two states.

computed and added to the cost of materials purchased for inventory during calendar year 1972.

4. Production inventories are maintained on a lower of market or cost, first in first out basis.
5. Production inventories stated in the balance sheets reflect appropriate amounts for all manufacturing expenses and the amounts represent fair market values.
6. Inventories of supplies are purchases from internal state sources and are recorded at cost including sales tax.
7. The amounts set forth for inventories in the balance sheets represent fair market value of the inventories on the assessment date for property taxes.
8. All the inventories of each corporation are maintained in the plant.

FIXED ASSETS

1. All fixed assets were acquired new on January 1, 1968, and the dollar amounts set forth in the balance sheets represent original cost.
2. Depreciation is calculated on the straight-line basis beginning January 1, 1968. Estimated useful life for purposes of calculation are 40 years for buildings, 10 years for machinery and equipment, and 10 years for furniture and fixtures.
3. Net book value of land, buildings, machinery and equipment, and furniture and fixtures as set forth in the balance sheet represent fair market values for purposes of real and personal property tax assessment.

EQUITY

1. Each corporation has $100,000 of one dollar par value capital stock issued and outstanding.

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DETAILED RESULTS OF CALCULATIONS OF RELATIVE TAX BURDENS

This appendix contains the detailed results of the tax burden calculations described in Chapter 3 of the report. On each of the five following pages, the results are shown for each of the five hypothetical corporations considered in the analysis.

TOTAL LOCAL AND STATE TAXES INCURRED AT SELECTED LOCATIONS

IN THE CALENDAR YEAR 1972

TYPE A CORPORATION

(Low inventory, low fixed capital investment, high labor content, low profit, 150 employees)

Tax Classification	Wilmington Delaware	Baltimore Maryland	Newark New Jersey	Buffalo New York	Cleveland Ohio	Philadelphia Pennsylvania	Wheeling W. Virginia
State Taxes							
Annual Report Fee			$ 15				
Franchise Tax	$ 333	$ 70	720				$ 100
Corp. Income Tax	9,782	9,481	5,775	$12,229	$ 9,870	$14,946	8,152
Personal Business Property Tax	-	-	1,040	-	-	-	-
Manufacturer's Tax	4,930	-	-	-	-	-	-
Occupational Gross Inc.	-	-	-	-		-	21,070
Unemployment Ins. Tax	8,938	638	4,468	6,384	638	1,915	638
Disability Benefit Tax	-	-	2,873	2,873	-	-	-
Total State Taxes	23,983	10,189	14,891	21,486	10,508	16,861	29,960
Local Taxes							
Real Property Tax	6,375	7,650	15,300	11,475	5,737	6,056	5,100
Personal Property Tax	-	-	-	-	8,100	-	11,100
Gross Receipts						10,067	-
Income-Municipal	2,038	4,740	-	-	1,359	4,501	-
Total Local Taxes	8,413	12,390	15,300	11,475	15,196	20,624	16,200
Total State and Local Taxes	$32,396	$22,579	$30,191	$32,961	$ 25,704	$37,485	$46,160

TOTAL LOCAL AND STATE TAXES INCURRED AT SELECTED LOCATIONS

IN THE CALENDAR YEAR 1972

TYPE B CORPORATION

(Low inventory, high fixed capital investment, medium labor content, medium profit, 220 employees)

Tax Classification	Wilmington Delaware	Baltimore Maryland	Newark New Jersey	Buffalo New York	Cleveland Ohio	Philadelphia Pennsylvania	Wheeling W. Virginia
State Taxes							
Annual Report Fee			$ 15				
Franchise Tax	$ 333	$ 70	1,561				$ 100
Corp. Income Tax	50,220	48,795	29,644	$62,775	$54,800	$76,725	41,850
Personal Business Property Tax	-	-	10,400	-	-	-	-
Manufacturer's Tax	11,030	-	-	-	-	-	-
Occupational Gross Inc.	-	-	-	-	-	-	47,382
Unemployment Ins. Tax	12,466	890	6,233	8,904	890	2,671	890
Disability Benefit Tax	-	-	4,007	4,007	-	-	-
Total State Taxes	74,049	49,755	51,860	75,686	55,690	79,396	90,222
Local Taxes							
Real Property Tax	14,125	16,950	33,900	25,425	12,712	13,419	11,300
Personal Property Tax	-	-	-	-	40,500	-	44,200
Gross Receipts	-	-	-	-	-	27,500	-
Income-Municipal	10,462	24,397	-	-	6,975	23,105	-
Total Local Taxes	24,587	41,347	33,900	25,425	60,187	64,024	55,500
Total State and Local Taxes	$98,636	$91,102	$85,760	$101,111	$115,877	$143,420	$145,722

TOTAL LOCAL AND STATE TAXES INCURRED AT SELECTED LOCATIONS

IN THE CALENDAR YEAR 1972

TYPE C CORPORATION

High inventory, low fixed capital investment,
high labor content, medium profit,
150 employees)

Tax Classification	Wilmington Delaware	Baltimore Maryland	Newark New Jersey	Buffalo New York	Cleveland Ohio	Philadelphia Pennsylvania	Wheeling W. Virginia
State Taxes							
Annual Report Fee			$ 15				
Franchise Tax	$ 333	$ 70	1,606				$ 100
Corp. Income Tax	24,120	23,420	14,237	$30,150	$25,800	$36,850	20,100
Personal Business Property Tax	-	-	2,437	-	-	-	-
Manufacturer's Tax	7,030	-	-	-	-	-	-
Occupational Gross Inc.	-	-	-	-	-	-	30,090
Unemployment Ins. Tax	8,820	630	4,410	6,300	630	1,890	630
Disability Benefit Tax	-	-	2,835	2,835	-	-	-
Total State Taxes	40,303	24,120	25,540	39,285	26,430	38,740	50,920
Local Taxes							
Real Property Tax	9,000	10,800	21,600	16,200	8,100	8,550	7,200
Personal Property Tax	-	-	-	-	21,600	-	28,000
Gross Receipts	-	-	-	-	-	17,200	-
Income-Municipal	5,025	11,710	-	-	3,350	11,097	-
Total Local Taxes	14,025	22,510	21,600	16,200	33,050	28,297	35,200
Total State and Local Taxes	$54,328	$46,630	$47,140	$55,485	$59,480	$67,037	$86,120

TOTAL LOCAL AND STATE TAXES INCURRED AT SELECTED LOCATIONS

IN THE CALENDAR YEAR 1972

TYPE D CORPORATION

(High inventory, high fixed capital investment, medium labor content, medium profit, 100 employees)

Tax Classification	Wilmington Delaware	Baltimore Maryland	Newark New Jersey	Buffalo New York	Cleveland Ohio	Philadelphia Pennsylvania	Wheeling W. Virginia
State Taxes							
Annual Report Fee			$ 15				
Franchise Tax	$ 333	$ 70	3,016				$ 100
Corp. Income Tax	27,720	26,920	16,362	$34,650	$29,800	$42,350	23,100
Personal Business Property Tax	-	-	6,987	-	-	-	-
Manufacturer's Tax	7,530	-	-	-	-	-	-
Occupational Gross Inc.	-	-	-	-	-	-	32,290
Unemployment Ins. Tax	5,527	395	2,764	3,948	395	1,184	395
Disability Benefit Tax	-	-	1,777	1,777	-	-	-
Total State Taxes	41,110	27,385	30,921	40,375	30,195	43,534	55,885
Local Taxes							
Real Property Tax	8,750	10,500	21,000	15,750	7,875	8,312	7,000
Personal Property Tax	-	-	-	-	43,312	-	48,760
Gross Receipts			-	-	-	18,750	-
Income-Municipal	5,775	13,460	-	-	3,850	12,753	-
Total Local Taxes	14,525	23,960	21,000	15,750	55,037	39,815	55,760
Total State and Local Taxes	$55,635	$51,345	$51,921	$56,125	$85,232	$83,349	$111,645

TOTAL LOCAL AND STATE TAXES INCURRED AT SELECTED LOCATIONS

IN THE CALENDAR YEAR 1972

TYPE E CORPORATION

(High inventory, high fixed capital investment,
medium labor content, high profit,
100 employees)

Tax Classification	Wilmington Delaware	Baltimore Maryland	Newark New Jersey	Buffalo New York	Cleveland Ohio	Philadelphia Pennsylvania	Wheeling W. Virginia
State Taxes							
Annual Report Fee			$ 15				
Franchise Tax	$ 333	$ 70	3,016				$ 100
Corp. Income Tax	51,120	49,670	30,175	$63,900	$55,800	$78,100	42,600
Personal Business Property Tax	-	-	6,987	-	-	-	-
Manufacturer's Tax	7,530	-	-	-	-	-	-
Occupational Gross Inc.	-	-	-	-	-	-	32,290
Unemployment Ins. Tax	5,527	395	2,764	3,948	395	1,184	395
Disability Benefit Tax	-	-	1,777	1,777	-	-	-
Total State Taxes	64,510	50,135	44,734	69,625	56,195	79,284	75,385
Local Taxes							
Real Property Tax	8,750	10,500	21,000	15,750	7,875	8,312	7,000
Personal Property Tax	-	-	-	-	43,312	-	48,760
Gross Receipts	-	-	-	-	-	18,750	-
Income-Municipal	10,650	24,835	-	-	7,100	23,519	-
Total Local Taxes	19,400	35,335	21,000	15,750	58,287	50,581	55,760
Total State and Local Taxes	$83,910	$85,470	$65,734	$85,375	$114,482	$129,865	$131,145

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DETAILED DESCRIPTION OF MODEL ECONOMY DATA BASE

This appendix contains a line-by-line description of the data base constructed for the analyses described in Chapter 4. The line numbers refer to line numbers shown on Exhibit 14 in the text of the report.

The first line in the income statement is net sales. Net sales is defined as the gross receipts of the firm less any returns or allowances. Thus, net sales would represent the gross operating income of the firm.

Cost of sales, line 2, represents the cost of goods sold. The cost of goods sold is determined by the merchandise bought for manufacture or for sale, and the salaries and wages of those involved in the production of the good or service rendered by the firm. Certain other costs, such as changes in inventory valuation, may also be included in this account.

Sales, general and administrative, line 3, expenses are those expenses related to the operation of the business not included in cost of sales. The fourth and fifth accounts in the income statement are the interest and depreciation accounts. Interest expense is defined as any interest cost related to the operation of the business, including mortgage interest on plant and equipment and interest on bank and other indebtedness. Depreciation may be calculated by any of several different methods. Straight line depreciation and accelerated depreciation on some equipment are typical ways figures are generated for this

account. The entry in this account reflects the actual average depreciation expense reported to the IRS by companies of each size.

The sum of the cost of sales, the sales general and administrative expenses, and interest and depreciation expenses are the total operating costs of the firm, line 6. Net sales less operating costs equal income before taxes. Income before taxes is the seventh account in the income statement.

In order to calculate Pennsylvania taxes, the share of income earned in Pennsylvania must be allocated - as noted above. Thus, the smallest companies in the retail trade, SIC number 56, example were assumed to have earned 100 percent of their income in Pennsylvania; the middle sized company, about 95 percent of their income in Pennsylvania; and the largest company in this sample of the industry, 70 percent of their income in Pennsylvania. The income subject to Pennsylvania state corporate income taxes, therefore, is equal to the firm's income before taxes times the Pennsylvania allocation percentage. This Pennsylvania income is line 8 on the income statement.

The Pennsylvania corporate net income tax is calculated as a fixed percent of the income subject to Pennsylvania taxes (initially calculated at 11 percent). The amount of the tax is shown in line 9 of the income statement. Line 10 shows the capital stock tax, that we estimated the company would pay (the estimating methodology is described in Chapter 4). Line 11, total State tax, therefore, is the sum of the Pennsylvania corporate net income and capital stock taxes.

Federal taxable income is defined as income before taxes less state and local taxes. In our analysis, local taxes are not used. Total state taxes, however, are deducted from income before taxes (line 7). Federal taxable income is reported on line 12.

Federal tax is calculated according to the appropriate Federal tax rates. Federal corporate income taxes are 22 percent of the first $25,000 of corporate net income and 48 percent of the amount in excess of $25,000. Thus, in the apparel and accessory stores, the first company would pay taxes at the rate of 22 percent, while the second and third companies, whose Federal taxable incomes exceed $25,000, would pay taxes at 22 percent of the first $25,000 and 48 percent on the excess over that amount.

The Federal tax computed by this means is entered on line 13 of the income statements. This Federal tax, however, may be reduced by credits against Federal tax liability from foreign tax payments or from the investment tax credit mechanism. Investment tax credit, appearing in line 15 of the income statement, is a function of the total new investment itemized for tax credit purposes (line number 14). The investment tax credit is the amount actually claimed by companies of each size on their income tax returns. Federal taxes, then, are equal to the gross Federal tax less the investment tax credit. The Federal tax after credit appears in line 16 of the income statement. The total tax obligation, therefore, is the sum of the state and Federal tax after credit lines (line 11 plus line 16). Corporate net income, then, is the income before

taxes in line 7 less the total tax obligation in line 17. Net income is given in line number 18 of the income statement.

The varying financial characteristics of different sizes of companies in the same industry is revealed in the three return ratios calculated and presented in lines number 19, 20 and 21 of the base case income statement information sheet. For example, the return on equity for each of the companies declines as the total asset size increases. Similarly, return on sales declines and return on assets declines. Clearly, using one average company to capture the range of financial characteristics of stores in this one SIC code would not adequately describe their income statements or the impact of tax changes on those income statements.